Tampere University

Woon Yen Loi

UNDERSTANDING THE ROLE OF RESEARCH PROFESSIONAL STAFF IN SUPPORTING ACADEMIC RESEARCHERS IN A UNIVERSITY

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Woon Yen Loi

Department for Higher Education Research
at Danube University Krems

Primary Supervisor: Ass. Prof. Dr. Filiz Keser Aschenberger, Danube University Krems
Secondary Supervisor: Univ.-Prof. Dkfm. Dr. habil Attila Pausits, Danube University Krems

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> A critical friend is a trusted person who asks provocative questions, provides data to be examined through another lens, and offers critique of a person's work as a friend. A critical friend takes the time to fully understand the context of the work presented and the outcomes that the person or group is working toward. *The friend is an advocate for the success of that work*.

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Abstract

Current literature shows that the role of research professional staff is increasingly critical in managing and developing research activities in a university. However, within the university, there appears to be a lack of clear understanding on the role of research professional staff and a lack of engagement with research support services. Using Systems theory and Third Space theory, this study aims to delineate the multifaceted roles of research professional staff and examine the enabling and inhibiting factors which influence the collaboration between research professional staff and academic researchers. This study is conducted through a qualitative case study approach with a purposeful sample of research professional staff and academic researchers ranging from early, mid, and senior academics. Results reveal that research professional staff play a critical role in the areas of research management, research development and researcher development. They perform multiple roles that have a supportive, strategic and/or developmental element. Furthermore, they identify their roles to be constructive and of added value to their academic colleagues. A range of generic and specialist skills and knowledge are used by research professional staff to perform their roles effectively. The collaboration between research professional staff and academic researchers are partly inhibited by an underlying culture of hierarchy. However, having a shared purpose between these groups of staff is identified as an enabler. Overall, this study illustrates that whilst research professional staff play an increasingly critical role in the facilitation of research activities within the university, more efforts need to be invested in promoting the positive contribution and values that they can add.

Keywords:

Research Professional staff; Academic researchers; Research management in higher education, Systems Theory; Third Space.

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Abbreviations

ARMA	Association of Research Managers and Administrators
BESTPRAC	Voice of Research Administrators: Building a Network of Administrative Excellence
EARMA	European Association of Research Managers and Administrators
EDI	Equality, Diversity and Inclusion
EPSRC	Engineering and Physical Sciences Research Council
GST	General Systems Theory
HEFCE	Higher Education Funding Council for England
HEPRO	Higher Education Professionals
HESA	Higher Education Statistics Agency
NERC	Natural Environment Research Council
NORDP	National Organization of Research Development Professionals
NPM	New Public Management
PRFS	Performance-based Research Funding System
REF	Research Excellence Framework
SRA International	Society of Research Administrators International
UKRI	United Kingdom Research and Innovation

1 Chapter 1: Introduction

1.1 Background to the problem

Research universities play a crucial role in the development of a global knowledge economy (Altbach, 2013), and are often described as highly complex and multifaceted institutions which serve the different societal needs (Altbach, 2007). Over the past few decades, the dynamics of research has evolved such that the practice, funding and governing of it have changed significantly. For example, due to a decrease in public funds within higher education, research has been progressively funded on a performance basis (Hicks, 2012). The mode of research has also shifted from linear to non-linear, with an emphasis on multidisciplinary, interdisciplinary and transdisciplinary research (Gibbons, 1994). Furthermore, research universities are required to engage with a wider body of stakeholders in order to diversify their sources of research income (Estermann & Bennetot Pruvot, 2011). Most importantly, the research performance of a university contributes to its institutional ranking and echoes its prestige (Hazelkorn, 2008; Lucas, 2006). In order to ensure sustainability, research universities are required to be more strategic with the development and management of their research activities (Connell, 2004). However, the management of research has been challenged with several key issues. Among them is the lack of clear structures and processes for research management across institutions, despite the increasingly prominent research mission (Connell, 2004).

In order to develop effective research management, universities must grow and professionalise the management of their research activities (Connell, 2004). This includes employing both academic researchers and research professional staff to specific research management positions and upskilling the capabilities of staff to manage research activities more effectively. However, several studies showed that despite an increasing investment towards research management, the roles and functions of research professional staff remain poorly understood and undervalued by academic researchers (Collinson, 2006; Green & Langley, 2009; Hockey & Allen-Collinson, 2009; Shelley, 2010). Consequently, this has led to a lack of engagement and under-utilisation of research support services. Therefore, it is against this background that my research aims to examine the multidimensional roles of research professional staff in supporting academic researchers in a university. This research also sought to identify the enabling and inhibiting factors which influence the collaboration between research professional staff and academic researchers.

1.2 Research Problem

Research professional staff generally includes any individual who manages and supports the development of research within a university. In a study conducted by Green and Langley (2009), it showed that although investment in university research support services is expanding, there appears to be a lack of clear understanding on the role of research professional staff (Green and Langley, 2009). It was reported that individuals outside of the research management profession

found it difficult to situate, define, understand and value the roles and functions of research professional staff. The lack of engagement and the under-utilisation of research support services may detract academic researchers from focusing on conducting the actual research. More importantly, under-utilising the research support services may lead to a waste of resources.

1.3 Research Gap

At present, the majority of research on the roles of research professional staff and research management functions are conducted at the macro level, examining the functions of research management and administration (Bushaway, 2007; Green & Langley, 2009; Langley, 2012; Kerridge & Scott, 2018; Cole, 2010; Kirkland, 2008; Lintz, 2008). Several studies have focused on the changing roles of individual research professional staff (Allen-Collinson, 2009; Collinson, 2007; Deem, 2010; Hockey & Allen-Collinson, 2009; Shelley, 2010; Whitchurch, 2004). However, there is a lack of research which seek to delineate the multidimensional roles of research professional staff from a holistic perspective. As asserted by Derrick & Nickson (2014), "although research management is regarded as a role that exists and is important, its specific nature and the characteristics of those who perform this role are overlooked" (p. 26). Hence, there is a need to conduct an up-to-date empirical study to investigate the role of research professional staff in a changing and complex university research environment. This study aims to address the gap by examining the role of research professional staff from a System and Third Space approach using a holistic perspective from both academic researchers and research professional staff.

1.4 Research Aim

In light of the above research problem and gap, this qualitative study aims to examine the role of research professional staff in supporting academic research within a university. A research university is selected as a case study for this research. It is anticipated that a better understanding of the role of research professional staff could lead to better utilisation and engagement of research support services.

1.5 Research Questions

The purpose of this qualitative case study was to examine the role of research professional staff in supporting academic researchers participating in research within a university. To obtain a better understanding of the phenomenon under study, the main research question raised is as follows:

What is the role of research professional staff in supporting academic researchers within a university?

Guiding Research Questions

1. How do research professional staff perceive the external and institutional environment?
2. How do research professional staff implement institutional research policies?
3. How do research professional staff perceive their roles in supporting academic researchers with research?
4. How do academic researchers perceive the roles of research professional staff in supporting academic research?
5. What are the enabling and inhibiting factors influencing the collaboration between research professional staff and academic researchers?

1.6 Rationale and value of research

The rationale for this study stems from the researcher's aim to convey a better understanding of the role of research professional staff in supporting academic researchers with research in a university. It is anticipated that by having a clearer understanding of the role of research professional staff, a more effective collaboration between these groups can be fostered. This study will be useful to academic researchers that are unsure about the role of research professional staff and are considering whether to obtain research support and advice from research support services. Additionally, this research may also serve as a useful starting point to individuals who are considering a career or work experience in the field of research management.

2 Chapter 2: Literature Review

This chapter aims to provide conceptual and empirical background related to the research environment, research management and the role of research professional staff in supporting academic research in universities. First, an overview of the changes in the research environment will be presented. Second, the conceptual background of a research office alongside the three functions of research management, research development and researcher development will be delineated. Third, the conceptual background of research professional staff will be discussed through four indicative themes: "non-academic" status of research professional staff; changing role of research professional staff; growing profession of research management; and relationship between research professional staff and academic researchers.

2.1 Changes in the external research environment

Changes in the external research environment have affected the way research is being funded, practised, and governed. In a recent survey conducted by the Association of Research Managers and Administrators (ARMA) in the United Kingdom (UK), it was reported that research professional staff are working in an increasingly demanding and complex research environment (King et al., 2020). Several factors can be considered as having a contributing effect towards this scenario.

Firstly, universities worldwide have suffered from a reduction in public funds due to the massification of higher education (Altbach, 2015). This has subsequently pushed universities to a climate of competition, where public funds for research are increasingly distributed through competitive and performance-based research grants (Hicks, 2012; Langley, 2012; Lintz, 2008). Further, universities are required to diversify their sources of research income by engaging with a wider range of stakeholders (Estermann & Bennetot Pruvot, 2011; Langley, 2012). As a result, a strategic research management approach is required to ensure that universities are in the best position to secure greater amounts of sponsored funds (Connell, 2004). These factors have led to the development of research offices globally (Kerridge & Scott, 2018; Kirkland, 2008).

Secondly, the competitive research landscape was manifested through the introduction of "Performance-based Research Funding System" (PRFS) in countries such as the UK and Australia. The rationale of the PRFS, according to Herbst (2007) is that

> "…funds should flow to institutions where performance is manifest: 'performing' institutions should receive more income than lesser performing institutions, which would provide performers with a competitive edge and would stimulate less performing institutions to perform. Output should be rewarded, not input" (p. 90).

In other words, funds should be given to the best performers who can yield the greatest results. UK was one of the early adopters of the PRFS, as evidenced in the Research Excellence Framework (REF) – a periodical expert peer review system designed to assess the quality of research from each university, where research funds are subsequently allocated based on

performance. The REF requires universities to evidence their research outputs and impact, in response to societal needs and maximise the rate of returns on public investment (REF, n.d.).

Thirdly, the reduction in basic research grants have meant that research funds are distributed in the form of competitive bids, with more processes and regulations in place (Traianou, 2016). Despite this, research councils were previously receiving more applications than they were able to support. Hence, research councils in the UK currently require universities to conduct an internal demand management, where universities use an internal "sift" process to identify and submit research applications which are of the highest quality (Northam, 2011). By having universities select the best proposals to put forward, it reduces financial and administrative burdens on the research councils (NERC, 2016). Additionally, research councils in the UK such as the Natural Environment Research Council (NERC), Economic Social Research Council (ESRC) have implemented new measures to reduce the number of applications received. For example, in order to tackle the submission of an increasing number of non-competitive research applications, ESRC has implemented a "Repeatedly Unsuccessful Applicants Policy" where low-performing institutions are only allowed to submit a limited number of research applications.

Fourthly, funding requirements are increasing in complexity (Langley, 2012; Lintz, 2008). As explained by Langley (2012), research is often "larger in scale, milestone driven, multi-partner, multi-discipline" (p. 71), which reflects Gibbons' (1994) idea of a non-linear mode of knowledge production. Scientific problems are progressively approached from a multidisciplinary and interdisciplinary perspective. As a result, this leads to greater demand for the research process to be audited and governed, and the impact of research to be demonstrated. As corroborated by Connell (2004), the governance of research has become more stringent with stricter regulations over ethical and legal compliance.

Fifthly, Adams (2013) highlighted the importance of international research collaboration where he contended that international publications yielded more citation impact compared to domestic publications. International research collaboration, as maintained by Adams is catalysed by the "Fourth Age of Research" (p. 557) in which research has become more seamless and borderless due to technological advancements. For these reasons, the management of research has become all the more crucial, with the need to develop international research networks, understand intercultural research communications and facilitate international knowledge exchange.

Finally, the research performance of a university contributes to its institutional ranking and echoes its prestige (Hazelkorn, 2008; Lucas, 2006). It is visible and can be measured in terms of publications, grants, and doctoral students. As a result, universities worldwide are vigorously developing strategies to increase their research performance for the purpose of ranking and reputation (Marginson & van der Wende, 2007). For these reasons, increasing attention has been placed on processes and strategies to maximise research growth and capacity within a university (Hazelkorn, 2005). Table 1 shows the shift in research trends which have affected the way research is being funded, practised and governed.

Table 1

The shift in research trends

Past research trends	Current research trends
Block funding	Competitive and performance based- funding
Research topics based on researcher's autonomy	Research topics based on predetermined topics selected by research councils and mostly need to be aligned to institutional research portfolio and strategy
Basic research	Applied research
Mode 1 (Linear) knowledge production	Mode 2 (non-linear) knowledge production
Lone scientist	Multi-stakeholder collaboration and partnerships with industry and third sector
Domestic collaboration and publication	International collaboration and publication
Research is mostly disciplinary, in silos	Research is mostly interdisciplinary and transdisciplinary

Source: Created by researcher

2.2 Conceptual background of the Research Office

The research office holds a range of functions which aims to increase research performance within a university. This can be organised into either a centralised and/or devolved functions. Green and Langley (2009) noted that universities with a larger research income reported to have both a centralised and devolved research management function whilst universities with less research income usually have a highly centralised research office. This trend seems to remain consistent, as reflected in the latest survey from the ARMA from the UK (King et al., 2020), which aimed to benchmark research offices in the UK. It was reported that universities with the highest research income (> £100M) employs a devolved approach, or a hybrid approach which combines both devolved and centralised functions. It was reported that devolved approaches were deemed to be viable, and perhaps even necessary in higher-income institutions. Green and Langley (2009) reported that universities with lower research income tend to have a highly centralised research management function. However, in the 2020 ARMA survey, it seems that these lower-income institutions (with an income just over £5 million) have started to employ a hybrid approach – using both central and devolved services. It was reported that a possible reason for this was that these institutions lacked a critical mass of research activities to be able to fully resource a centralised research office. In contrast, there was greater prevalence of a centralised function at universities in the middle-income group.

2.2.1 *The research management function*

Research management is a function which embraces anything that universities can undertake to maximise its research impact and performance (Green and Langley, 2009). It achieves this by balancing the needs of the institutions, in terms of meeting institutional objectives and external requirements, and facilitating the expertise of academic researchers to determine the optimal method of performing research (Kirkland, 2008).

Conceptually, research management involves formulating and developing a university's research strategy (Bushaway, 2007). Operationally, it involves a series of activities which fall under two main sub-functions: pre-award research management and post-award research management (Andersen, 2018). Pre-award research management includes activities such as the provision of information and advice about funding opportunities, assistance in costing and pricing procedures, coordination of major research initiatives, advice on legal and ethical aspects of research and intellectual property, and development of a code of practice for the conduct of good research (Taylor, 2006). On the other hand, post-award research management comprises the setting up of an award or account, monitoring of financial compliance, project reporting and project close-out (Andersen, 2018). The following list of functions is commonly found in research management (Langley, 2012, p. 72):

- Research and enterprise strategy, and policy development and implementation
- REF preparation and submission, and statutory metrics of activity (e.g. to the Higher Education Statistics Agency (HESA))
- Research information and analysis, reporting, portfolio management and benchmarking
- Impact development and support
- Contract negotiation
- Research integrity (governance, human tissue, ethics, and misconduct)
- Support for university research committee(s)
- System development and implementation for research
- Post award finance, milestone management and managing audits
- European Union and international funding
- Clinical trials and NHS/NIHR funding
- Public engagement dissemination

Source : Langley, 2012, p. 72

Although research management has been a critical function in a university, Taylor (2006) argued that there are two inherent problems related to this. First, it concerns whether research can truly be 'managed' and second, it concerns whether there is such thing as a 'best way' to manage research. Taylor (2006) argued that research is a highly personal pursuit related to an individual's creativity and imagination. Therefore, asserting control over the management of research can sometimes be counterproductive. However, Schuetzenmeister (2010) argued that

as research becomes more complex with a wider range of stakeholders involved, the introduction of more stringent ethical and legal compliance, increased risks assessments and funder requirements, and lack of proper coordination and management may jeopardise the quality and productivity of research. Fox (1992) argued that whilst research management is important, it is equally important to focus on developing and maintaining a conducive environment where research can thrive. This stems from an understanding of the importance of academic researchers who are responsible for conducting research at an individual level rather than as an institution.

Another aspect of research management which has garnered much debate is whether there is one 'best way' to manage research. If research is a highly personal pursuit, as argued by Taylor (2006), then there can't be a one-size-fits-all approach towards research management (Bushaway, 2007). Bushaway (2007) argued that the management of research is subject to the university's research culture and scope of activities. Therefore, there is no single model or blueprint on how best to develop a research management service for universities. Rather, the service has to be tailored towards the research mission, structure, circumstances and ethos of the university. Crucially, he stressed the need for the research office, research group and individual researcher to build a proactive and mutual relationship at every stage of the research process.

2.2.2 *The research development function*

Research development is an emerging sub-function which is commonly found under the umbrella function of a research office (Ross et al., 2019). It is increasingly seen as a crucial function to stimulate the growth of research capacity in research-intensive universities (Carter et al., 2019). Unlike research management which deals with more administrative and financial activities, research development deals with "strategic, proactive, catalytic and capacity-building activities" (NORDP, para 1. n.d.). The functions of research development include strategic research advancement, communication of research and research opportunities, enhancement of collaboration and team science, proposal development and support functions (NORDP, para 1. n.d.). Langley (2012, p. 72) listed the following research development functions which are increasingly found within the research office.

- Funding scheme information; knowledge about specific funders
- Relationship management with key partners
- Research development and facilitation – discipline specific and multidisciplinary
- Proposal support and costing/pricing
- Project management and support for collaborations
- Research themes and institute support
- Developing international research alliances
- International research strategy and collaborations
- Strategic alliance development, both for commercial and non-commercial purposes

Source: Langley, 2012, p. 72

Individuals who work within the area of research development are typically known as "Research Development Professionals" (Carter et al., 2019). Research Development Professionals are expected to have a high level of scholarly knowledge in order to provide strategic guidance to academic researchers and research leaders. They must also possess an overall understanding of the university's research strengths and clusters in order to improve the synergies of research across disciplines and readily respond towards external interdisciplinary research calls. Crucially, Research Development Professionals must be able to influence and cultivate trust within a highly hierarchical academic environment. For this reason, they must be able to prove themselves credible and effective in performing their role (Carter et al., 2019).

A study conducted by Ross et al. (2019) revealed that academic researchers found the most impactful research development activities to be on the support for large multi-investigator project grants, internal grant programmes for research seed fund and grant team project management. In general, academic researchers value the research development function and urged for more developmental activities such as coordinating multi-investigator grants, training on best practices in grant writing and providing support for individual proposals. Finally, Ross and her colleagues (2019) showed that there is a need to create a common vernacular in research development. Without establishing a common language, it can be difficult for individuals from different institutions to communicate effectively, especially in niche research fields.

2.2.3 *The researcher development function*

The function of researcher development could be established within the remit of research management (Hazelkorn, 2005) or could be an independent unit in a university. Researcher development refers to the "development for researchers, or aspiring or potential researchers" (Evans, 2011b, p. 21). It encompasses behavioural development, attitudinal development, and intellectual development (Evans, 2011b). Langley (2012) stated that researcher development includes areas such as support for early career researchers, and training and development of research skills. Support for postgraduate research such as doctoral training centres and fostering student enterprise skills and entrepreneurship are also aspects of the researcher development functions.

Bray & Boon (2011) and Hakala (2009) argued that prior to the establishment of the "European Charter for Researchers and Code of Conduct for their Recruitment" in 2005 and "United Kingdom Concordat to Support the Career Development of Researchers" in 2008, research staff were often perceived as a neglected and marginalised group with little structured support provided for their career development (Akerlind, 2005; Lee et al., 2010). Although researcher development has been increasingly prioritised as a critical area, it is still regarded as an emerging field where its remit and parameters continue to evolve in response to policy changes (Evans, 2011a). As a result, the field has constantly been confronted with questions such as "who is

researcher development for?", "what is involved in researcher development?", and "how can the development of researchers be measured?".

Evans (2011a) attempted to provide a broad but succinct view of the function of researcher development by defining it as "the process whereby people's capacity and willingness to carry out the research components of their work or studies may be considered to be enhanced, with a degree of permanence that exceed transitoriness" (p. 82). She emphasised the words "may be considered" because development is subjective according to individual needs, interests and agenda. For example, a researcher may feel that attending a grant-writing workshop will improve his/her grant writing skills, whilst another researcher may feel that the same workshop will not lead to any form of development. Another important term in her definition is "people", Evans avoided the use of the word "researchers" as she wanted to include individuals who are not [yet] researchers but aspire to become researchers. Further, due to individual differences, Evans contended that there is no standard model for creating an environment or opportunity in which everyone exposed to it will develop – one size does not fit all. In sum, researcher development is a growing field with the need to develop more robust theoretical concepts.

2.2.4 *Challenges within a research office*

Current literature shows that one of the biggest challenges faced by any research office is the inconsistent nature of its organisational structure. Green and Langley (2009) reported that majority of universities have undergone an organisational restructure, or were about to undergo one, often with changes in leadership. Moreover, the functions of a research office tend to develop organically and sporadically, despite having dedicated research strategies and formal appointments of academic and administrative heads.

The constant restructure of a research office is partly due to the expanding nature of the research office (Hazelkorn, 2005). Over the years, due to the increasing emphasis on entrepreneurship, technology transfer and knowledge transfer, Hazelkorn (2005) observed that research offices have expanded to include functions such as contract management, patents and intellectual property. This is also reflected in the ARMA survey by King et al (2020) which reported that almost 60% of research offices are part of a joint office supporting research and innovation (R&I) or research and enterprise (R&E) activities. Merging of the role of research offices with other functions such as technology transfer and business development has resulted in the need to develop new organisational structures.

Another challenge faced by university research offices is an increasing need to adapt the skills and knowledge of research management staff against a broad and demanding set of external requirements (King et al., 2020). Research professional staff need to be equipped with both 'hard' and 'soft' skills, and general and specialist knowledge in order to perform their role effectively (Hockey & Allen-Collinson, 2009; Langley, 2012; Lintz, 2008). Examples of hard skills include financial control and costing and critical review of research bids while soft skills include negotiation, evaluation and communication (Lintz, 2008). Specialist knowledge

comprise of European Union (EU) and other funding requirements, ethics and clinical trials (Langley, 2012). Finally, general knowledge contain topics relating to public and social policy, economic trends and global issues (Langley, 2012).

2.3 Conceptual background of Research Professional Staff

This section focuses on the main themes relevant to the role of research professional staff from current literature. It discusses the status of research professional staff as "non-academic staff" and "professional services staff", their changing role, the growing profession of research management and the relationship between academic researchers and research professional staff.

2.3.1 *From "non-academic staff" to "professional services staff"*

According to the Higher Education Statistic Agency (HESA), individuals who are not appointed for an academic employment function are categorised as "non-academic staff". They include "managers, non-academic professionals, student welfare workers, secretaries, caretakers and cleaners" (HESA, n.d.). Research professional staff in the UK are categorised as "non-academic" because they are not employed with an academic function. However, this does not truly reflect their role because their day-to-day responsibilities often involve academic work such as writing research bids and peer review of research applications (Shelley, 2010). Collinson (2006) contended that the role of research professional staff has been negatively marked due to the perception that they are "just non-academics" (p.267). In this study, the researcher employs the term "Research Professional Staff" to refer to all individuals who perform research support functions with managerial responsibilities within a research office.

In general, the role of non-academic staff has evolved significantly over the years, with the "non-academic" nomenclature being increasingly challenged and replaced by more professional terms (Sebalj et al., 2012). In an Australian study where administrators were asked about their preference for a categorical label, majority of administrators preferred the label "Professional staff" as compared to "General staff" (Sebalj et al., 2012, p. 464). In the UK, as reflected in the 2010 Higher Education Funding Council for England (HEFCE) Higher Education Workforce Report, there is an increasing expectation on professional service roles to provide strategic support rather than one-off, transactional services. Further, there is a shift in focus on performance management and the need to assess the "value added" (p. 39) by professional services to help achieve strategic institutional goals (HEFCE, 2010). The report also highlighted the demand for higher levels of skills in professional services to provide improved services.

2.3.2 *The changing role of research professional staff*

The increasing professionalisation of non-academic staff has led Teichler (2003) to coin the nomenclature "Higher Education Professionals"(HEPROs). Teichler (2003) defined HEPROs as "highly qualified persons in universities who are neither top managers nor in charge of the

academic functions of teaching, research" (p. 183), situated at the crossroads of academic and administrative structures in universities. The day-to-day responsibilities of HEPROs involve supporting university academic management, academic researchers, and students in fulfilling the university missions of teaching, research, and third mission. Research professional staff can be regarded as the new higher education professionals as their roles cut across both the academic and professional services domains (Whitchurch, 2008b). In the 1970s and 80s, higher education managers and administrators tended to have a more rigid job description, which mostly consists of administrative and reporting duties (Whitchurch, 2008b). In contrast, today's higher education managers and administrators are expected have a strategic approach in performing their role (HEFCE, 2010) and are required to be equipped with both generalist and specialist knowledge.

In a systematic literature review conducted by Derrick & Nickson (2014), it was reported that there has been a different perceptions on the role of research managers over the years. Kaplan (1959) described a research administrator as a "man in the middle" (p. 23), trapped between the research scientist and research organisation. He contended that a research administrator, at the most restricted sense, is a business manager who may be responsible for "purchasing, payrolls, personnel matters, and maintenance of building, equipment and service operations (e.g. glass washing, construction and maintenance of laboratory equipment and so on)" (p.23). Krauser (2003) on the other hand, defined research managers as "servant leaders" (p. 14). In contrast, Hockey & Allen-Collinson (2009) regarded the role of a research manager as a partner in the research process because they play a critical role in formulating, supporting, developing, monitoring, evaluating and promoting the research and research-degree activity of their universities. Langley (2012) indicated that research managers are "critical enablers" (p.72) who support academic researchers to achieve their research aims.

2.3.3 *The growing profession of research management*

According to Green & Langley (2009), although the demands for research management have increased significantly over the years, research management has not been fully recognised as a profession. Research administrators and managers are still seen as an "invisible workforce" (Rhoades, 2009, p. 35) with no voice and no place within the university. A contributing factor of this is because research management does not subscribe to a standard procedural framework such as Human Resources or Finance (Green & Langley, 2009). Until recently, research management is still perceived to be a profession to be formalised (Virágh et al., 2019).

Research managers have felt that they are working within a fragmented community, with a lack of standardised professional development (Langley, 2012). This has also led them to experience a lack of occupational identity and opportunities for career progression (Green & Langley, 2009; Langley, 2012). Kerridge & Scott (2018) argued that the maturity of a profession or semi-profession is often marked by the availability of certification. The ARMA is a professional association for research managers and administrators in the UK founded in 2006 with over 3000 members (Association of Research Managers and Administrators (ARMA), n.d.). ARMA

provides professional development and facilitates networking opportunities amongst research managers and administrators. Furthermore, it helps to reinforce research management as a profession in the UK. However, at a practical level, most research managers still do not perceive research management as a profession (Langley, 2012). Indeed, as Kerridge & Scott (2018) argued, research management and administration is only perceived as a profession in the United States.

2.3.4 *Research Professional Staff and Academic researchers*

The current literature shows that there is a divided relationship between research professional staff and academic researchers. Hockey & Allen-Collinson (2009) argued that there is a pervasive culture where academic researchers are exclusively championed for their capabilities in winning research grants and generating publications for the university. As a result, this has led them to perceive other groups of occupations as "peripheral" workers (Kimber, 2003, p. 1), "support staff" or "assistant" (Allen-Collinson, 2009, p. 157).

Another contributing factor to this division is because in the past, there was a clearer division between academic affairs and non-academic affairs (Whitchurch, 2006). This division was manifested in a way that academic researchers tended to focus on academic matters such as teaching and research, whilst research professional staff only focused on administrative matters. Therefore, there were distinct divisions and boundaries between both groups of staff, and hence, fewer opportunities for interaction and collaboration (Whitchurch, 2006). However, as the university engages in a wider set of activities such as widening participation, public engagement, institutional planning, research and partnerships development, these activities require the creative collaboration of both academic researchers and non-academic staff (Whitchurch, 2009). This new mode of knowledge production as theorised by Gibbons (1994) necessitates a cross-disciplinary and multi-stakeholder approach in problem solving. This has subsequently required academic researchers to work more collaboratively with non-academic staff in areas such as research and business development, research and innovation, students' careers and employability. Further, due to the increasing financial stringency, accountability and bureaucracies, academic researchers have had to work in conjunction with non-academic staff on areas such as financial year-end reporting, student recruitment, students' attendance monitoring and academic integrity (Whitchurch, 2009).

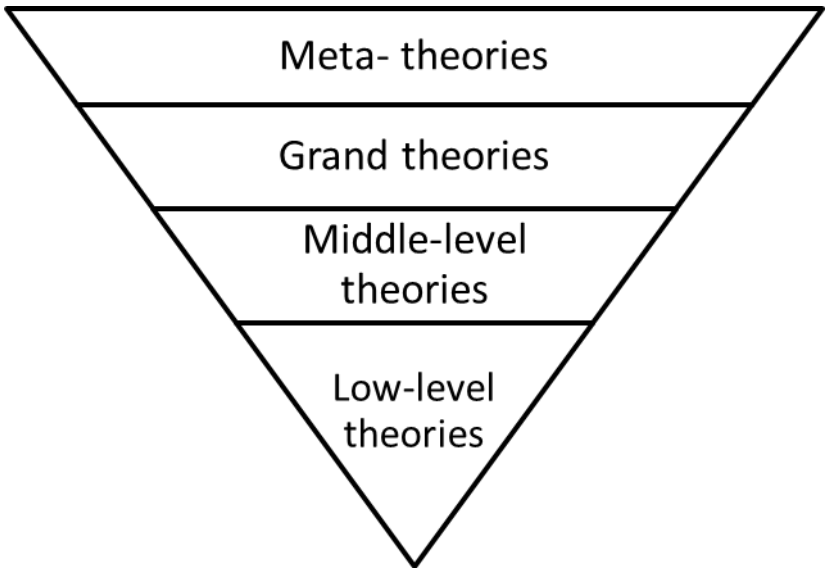
3 Chapter 3: Theoretical Framework

A theory is a generalised statement of abstract ideas delineated within a set of critical bounding assumptions. It seeks to explain, assert, and predict relationships or connections between or among phenomena (Abend, 2008). It is important to note that a theoretical framework can be a single theory or multiple theories integrated to assist the researcher to analyse a phenomenon (Abend, 2008). Eisenhart (1991) defined a theoretical framework as "a structure that guides research by relying on a formal theory…constructed by using an established, coherent explanation of certain phenomena and relationships" (p. 205). The selected theoretical framework underpins the researcher's worldview and serves as an investigative lens for the researcher to approach the problem and analyse the data (Kivunja, 2018).

Kezar (2006, p. 292) distinguished the different levels of theory: meta theories, grand theories, middle-level theories and low-level theories. Figure 1 shows a summary of the four levels of theory. Meta-theories are paradigms such as positivisms, interpretivism, critical theory or participatory theory. Grand theories are unifying theories that help us understand a vast area of study such as anthropology or Marxism. Middle-level theories serve to explain a broader topic area which spans across different settings and contexts such as organisational theories. Finally, low-level theories seek to explain a specific phenomenon related to particular contexts and cases.

Figure 1

Kezar's Four Levels of Theory



Source: Adapted from Kezar, 2006, p. 292.

In this research, system theory (grand theory) and the Third Space theory (low-level theory) are used to examine the role of research professional staff in supporting academic research within a university research environment. Systems theory (Katz & Kahn, 1978; Von Bertalanffy, 1968) is used to examine the role of research professional staff from an organisational perspective, that is, to locate their role within a complex university research environment. Third space theory (Whitchurch, 2008b) on the other hand, is used to examine the interaction of both research professional staff and academic researchers in a university research environment. With this theoretical framework, the researcher aims to illuminate the complexity of the role of research professional staff from an organisational and individual level.

3.1 Systems Theory

General Systems theory (GST) was founded by the biologist Ludwig von Bertalanffy in the first half of the 20th century (Laszlo & Krippner, 1998). According to Bertalanffy (1968), GST is often contrasted to the traditional mechanistic approach which tended to diagnose a problem based on individual components. This approach largely ignores the idea that individual components are interrelated and interdependent. It views the problem from a reductionist, linear and disparate manner. GST on the other hand, focused on viewing, explaining, and diagnosing problems from a holistic manner (Bridgen, 2015). GST was a new scientific paradigm which moved away from a mechanical and reductionist paradigm to a systemic paradigm (Banathy & Jenlink, 2004). Although Systems theory originated from organismic biology, it was soon applied to other disciplines such as cybernetics, information technology, communication, theories of game and systems engineering (Skyttner, 2005). Crucially, GST is increasingly applied to other areas of humanity such as social work, mental health, and political and behavioural sciences (Laszlo & Krippner, 1998).

3.1.1 *Definition and characteristics of a system*

A system is defined as a set of elements that are interrelated, interactive, and interdependent (Hall & Fagen, 1956). An effective system consists of different elements which are maintained and enhanced by a purposeful structure in order to accomplish a common goal (Cole, 2010). According to Skyttner (2005), systems can be distinguished as either open or closed. However, it is important to note that as no social systems are purely closed or open, they should therefore be measured in degrees rather than dichotomies. Closed and open systems may be distinguished by the level of sensitivity to the external environment (Katz & Kahn, 1966). An open system is always dependent upon its environment to exchange matter, energy and information. A closed system on the other hand, is open for input of energy only and is not sensitive towards changes in its environment. For this reason, closed systems tend to run down and eventually become "dying systems" (Skyttner, 2005, p. 63).

3.1.2 *Key concepts of open systems*

Katz & Kahn (1966) first employed Open Systems theory to explain organisational behaviours (Table 2). They achieved this by mapping the continuous cycle of input, throughput, output and feedback between an organisation and its external environment. The system that is of interest exists within an environment. An environment can be defined as any phenomenon influencing the processes and behaviour of a system which is outside of the direct control of the system. In order to survive and sustain itself, an open system is required to respond readily towards the feedback from the external environment.

Table 2

Key concepts of Open Systems

Concept	Definition
Input	Resources and/or information required to sustain the organisational systems. Organisational inputs could be in the form of products, raw materials, human resources, information, technology, cultural expectations, and even human predispositions.
Throughput	Processes and activities within the organisational system used to achieve the intended goals.
Output	Outcomes, products and services which are created and delivered by the organisation.
Feedback loop	Ongoing source of information from the external environment funnelled through to the system.
Systems as cycles of events	The cyclical process of exchanging and transforming energy to renew and sustain the system

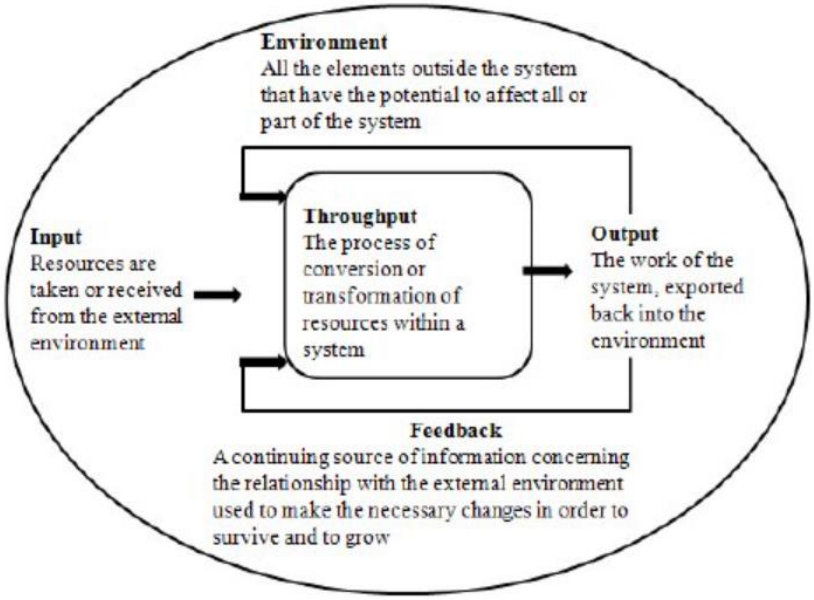
Source: Katz & Kahn (1966, pp. 23 - 30)

According to Katz & Kahn (1966), an open system has a permeable boundary which allows for the absorption of input from the environment. Input can be in the form of information or resources. The system then processes the input internally, which is known as “throughput”, thereafter releasing outputs into the environment. This cyclical process helps to restore equilibrium, which is referred to as the maintenance of order within a system. The system then pursues feedback to ascertain if the output was effective in restoring equilibrium. Positive feedback is used to change or enhance the course of action to optimise the present processes of the system. Negative feedback is used to rectify or reduce deviations in the system’s processes, to ensure the system remains in a steady condition. The systems approach aims at identifying the means to maintain organisational survival and focuses on long-term rather than short-term

goals. Figure 2 aims to illustrate the dynamics of a system through the input-throughput-output and feedback model.

Figure 2

Input-throughput-output model by Katz and Kahn (1978)



Source: Katz and Kahn (1978), obtained from Ramosaj & Berisha (2014, p. 61)

3.1.3 *Implications of Systems theory on organisations*

Systems theory provides a big picture which allows us to immediately identify the essential elements which are stable, and those which are changing (Boulding, 1956). Importantly, it facilitates learning on the critical influence of the external environment on an individual's role and the interaction with other individuals within an organisation. Systems theory is therefore useful to analyse and explain behaviours of organisations and individuals (Bess & Dee, 2012). Bess and Dees (2012) posited that both organisations and individuals can only operate optimally when they are able to balance "the often-competing forces influencing them" (p.93). This means that an organisation must be able to address the demands and expectations of the recipients of its outputs – products and services, and simultaneously be able to connect and coordinate its internal components – departments and people. From an individual perspective, they must be able to balance the expectations from external environment and their internal needs.

3.2 The Third Space theory

According to Whitchurch (2008), the concept of Third Space is rooted in cultural and social studies such as race, gender and class. It was first conceptualised by a post-colonial theorist in 1994 to describe the boundary zone in which two cultures meet, which subsequently lead to the formation of hybrid identities and new discourses. Third Space was predominantly used to investigate spatial relationship, where the impact of diversity and differences were examined. These differences created a new window of "negotiations, meaning and representations" (p.8). Third Space is often characterised as a space with contested identities and struggle with power relations. It features a place with both opportunities and threats.

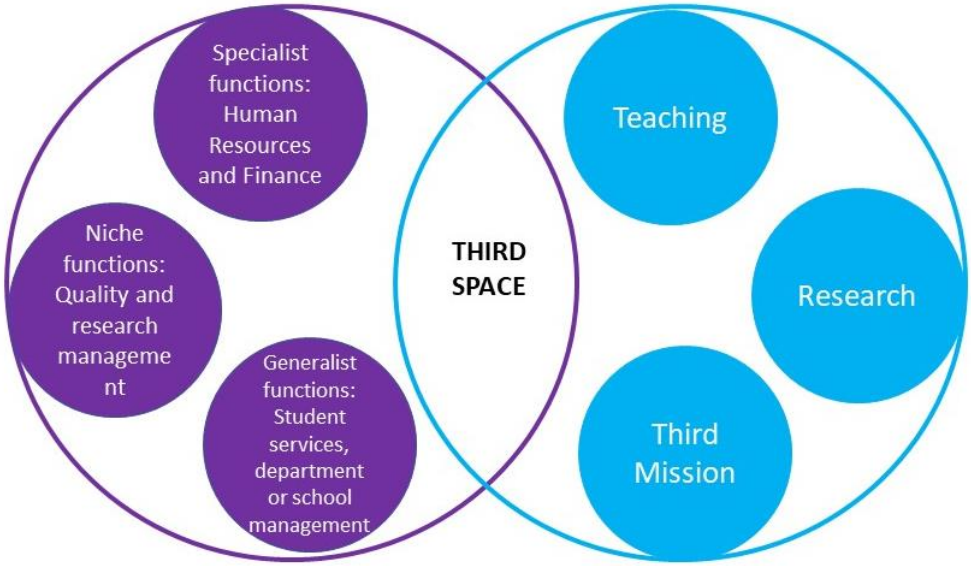
3.2.1 *Emergence of Third Space in the Higher Education context*

Whitchurch (2008) was the first to apply the Third Space theory in the context of higher education. Specifically, she employed the concept to study groups of staff who worked in "hybrid boundaries" and "between the academic and professional domains" (p. 377). This group of staff worked between the professional and academic domains of activities. Thus, they did not strictly fit within a particular domain. By this principle, research professional staff fit within the "Third Space" because their roles involve administrative-type work and academic research.

The Third Space theory has been increasingly employed to examine the roles of new higher education professionals (Hockey & Allen-Collinson, 2009; Berman & Pitman, 2010; Shelley, 2010; Stoltenkamp et al., 2017). Whitchurch (2006) argued that the boundaries between the non-academic and academic domains are increasingly blurred (Figure 3). As such, non-academic individuals who work across the academic domains can be seen as "hybrid workers" or "multi-professionals" (p. 4). In the past, research professional staff are predominantly situated in the non-academic domain. However, in recent years, research professional staff have been drawn to the academic domain where they are much more involved in academic activities. Moreover, research managers are increasingly required to work in collaboration with academic researchers. As Shelley (2010) contended, the boundaries between research professional staff and academic researchers are progressively being distorted. She explained that when research professional staff involve themselves in drafting parts of the research bids and revising the bids before submission, they immerse themselves much more in the academic domain.

Figure 3

Third Space within an institutional environment



Source: Adapted from Whitchurch (2008, p. 385)

Whitchurch (2008) categorised four types of Third Space professionals in higher education (Table 3). She posited that Third Space is primarily inhabited by *unbounded* and *blended professionals*, as well as by academic researchers undertaking institutional project-based activities. Third Space, therefore, is characterised by diverse teams of staff who work on fixed-term projects such as bids for external funding and quality assurance initiatives, as well as the more permanent projects. These teams are not necessarily co-located geographically and may even be virtual. This joint working process is characterised by the development of communicative relationships and networks which are perceived to be more important than organisational boundaries. For this reason, Whitchurch (2008) argued that Third Space "may occur in spite of, rather than because of, formal structures" (p.8).

Table 3

Four types of Third Space professionals

Type of professionals	Description
Bounded professionals	Individuals who work within clear structural boundaries (e.g., function, job description) for continuity and maintenance of processes and standards. This boundary is either self-constructed or imposed upon them.
Cross-boundary professionals	Actively use boundaries for strategic leverage and institutional capacity building. Likely to interact with the external environment.
Unbounded professionals	Disregard boundaries to focus on broadly-based projects and institutional development.
Blended professionals	Dedicated appointments spanning professional and academic domains.

Source: Whitchurch (2008, p. 9)

3.2.2 *Dynamics and phases of Third Space*

Whitchurch (2010) proposed that because Third Space is a dynamic arena, individuals who occupy this space tend to experience three phases: *contestation, reconciliation, and reconstruction* (pp. 12- 15). The *contestation* phase describes the process in which individual identities are confronted with the dominant "rules and resources" (Giddens, 1991; as cited in Whitchurch, 2008a, p. 376) such as regulatory requirements or hierarchical structures. For instance, within a university, academic researchers may be seen as "dominant" and "default" (Whitchurch, 2010, p. 12), and the university space may be seen as specifically designed for the benefit of academic researchers. As such, staff who work in the "non-academic" space may feel different and marginalised. Although non-academic staff may comply with the dominant rules for practical purposes, they could privately contest them and find themselves negotiating their position in relation to these rules. Individuals may experience a sense of resistance and develop internal struggles which become a core part of working practices.

The second phase is characterised by *reconciliation,* where individuals may start to change their beliefs and attitudes about the dominant rules and regulations. They may start to consider ways in which they can actively contribute or gain from the "dominant" and "default" space. This phase is underpinned by a belief of possible collaboration or joint endeavour between interested parties which would not occur otherwise, until the interested parties are convinced that they have something valuable to contribute to and gain from (Whitchurch, 2008, p. 40). This form of collaboration facilitates new forms of activities and initiatives. For instance, research managers working collaboratively with academic researchers on a strategic research bid. During this

process, both parties gain an understanding of each other's viewpoints which allow for the development of new forms of relationship.

Finally, the *reconstruction* phase is when individuals are no longer constrained by the "rules and resources" (p. 13) derived from the non-academic or academic space, but via the creation of a plural *Third Space* environment. Throughout the process of *reconstruction*, new "rules and resources" and original understandings are formed. These are focused less on regulatory procedures and hierarchical structures, but more on collaborative projects. *Reconstruction* therefore involves the active contribution of individuals to form a new space while at the same time, these individuals develop new identities for themselves and their teams. Table 4 summarises the three processes that individuals tend to experience within the Third Space.

Table 4

Dynamics within the Third Space

Phase	Description
Contestation	Individuals feel constrained by the existing dominant rules and regulations Individuals may comply with rules and regulations but privately detest them
Reconciliation	Desire for collaboration; new relationships formed, unbounded by rules and regulations
Reconstruction	New activities, relationships and new rules and regulations formed

Source: Whitchurch (2010, pp. 12- 15)

3.2.3 *Implications of Third Space on the role of research professional staff*

Overall, Whitchurch's Third Space theory offers a way to identify the issues and opportunities that exist between the binaries of academic researchers and research professional staff. It is also used to examine the evolving role and functions of research professional staff. Although the roles of research professional staff have been established for a long time, it is clear that these roles are continuously being defined within the Third Space. On the one hand, Third Space is an exciting arena for research professional staff to learn all about the research activities taking place in a university, but on the other hand, it provides a constant challenge for research professional staff to develop themselves to be credible, competent and confident in performing their role in an academic-dominant environment.

4 Chapter 4: Research Design

A research design is a plan that guides the overall investigation of a research study. Creswell (2009) suggested that a research design includes three components: the researcher's worldview, strategies of inquiries and research methods. The interconnection of these three components determines how the research investigation will unfold.

This chapter will first outline the research paradigm adopted by the researcher, followed by justifications in adopting a qualitative case study approach. A description of the case will be provided. Methods of data collection and data analysis will be discussed. Approaches to improving the reliability, trustworthiness and ethics will be stated. Finally, the limitations of the research design will also be addressed.

4.1 Qualitative Approach

This research subscribes to both a postpositivist and interpretivist worldview. The postpositivist worldview is reflected in the chosen theories presented in Chapter 3 which serve as a preliminary framework guiding the research study. However, this research also embraces an interpretivist worldview where the researcher delves deep into the unique nature of human behaviour to seek for rich and complex meanings via interpretive and inferential analysis (Creswell, 2009). Within this paradigm, this study employs a qualitative approach.

The objective of this study was to examine the role of research professional staff in supporting academic research in a university. This question requires the gathering and analysis of an array of in-depth perspectives from both research professional staff and academic researchers. Therefore, a qualitative approach is needed to yield rich and detailed descriptions from each of the participants. As corroborated by Creswell (2005), qualitative research heavily relies on the views of the participants by asking broad and generalised questions, collecting verbal and written data from participants, describing and analysing them to generate themes, and conducting the inquiry in a subjective, biased manner.

4.2 Case Study approach

As Yin (2003) explained, a case study is used when the research asks "how" or "why" (p.1) questions about a contemporary set of events over which the researcher has little or no control. Yin (2003, pp. 13-14) further delineated five technical features of a case study. Firstly, a case study investigates a phenomenon within its real-life context. In this research, the phenomenon being studied is the role of research professional staff in a university research environment. This phenomenon needs to be examined in a case study approach as it involves various contextual factors which influence the role of research professional staff. These factors include the changing external research landscape, research and academic culture, and perception of academic researchers towards research professional staff.

Secondly, a case study is adopted when the "boundaries between phenomenon and context are not clearly evident" (Yin, 2003, p. 13). The role of research professional staff (phenomenon) in each university (context) is not clearly defined, as each university has a specific culture, mission and ambition. Again, the context plays a significant role in this research study. Thirdly, a case study accommodates various distinctive variables of interest, as mentioned in the first point; there are distinctive variables which influence the role of research professional staff such as interaction with academic researchers, changes to the external research environment, institutional research culture and research environment. Fourthly, the phenomenon relies on multiple sources of evidence. In this case, the researcher employs document analysis and interviews with research professional staff and academic researchers. Both data collection methods will be verified against the other.

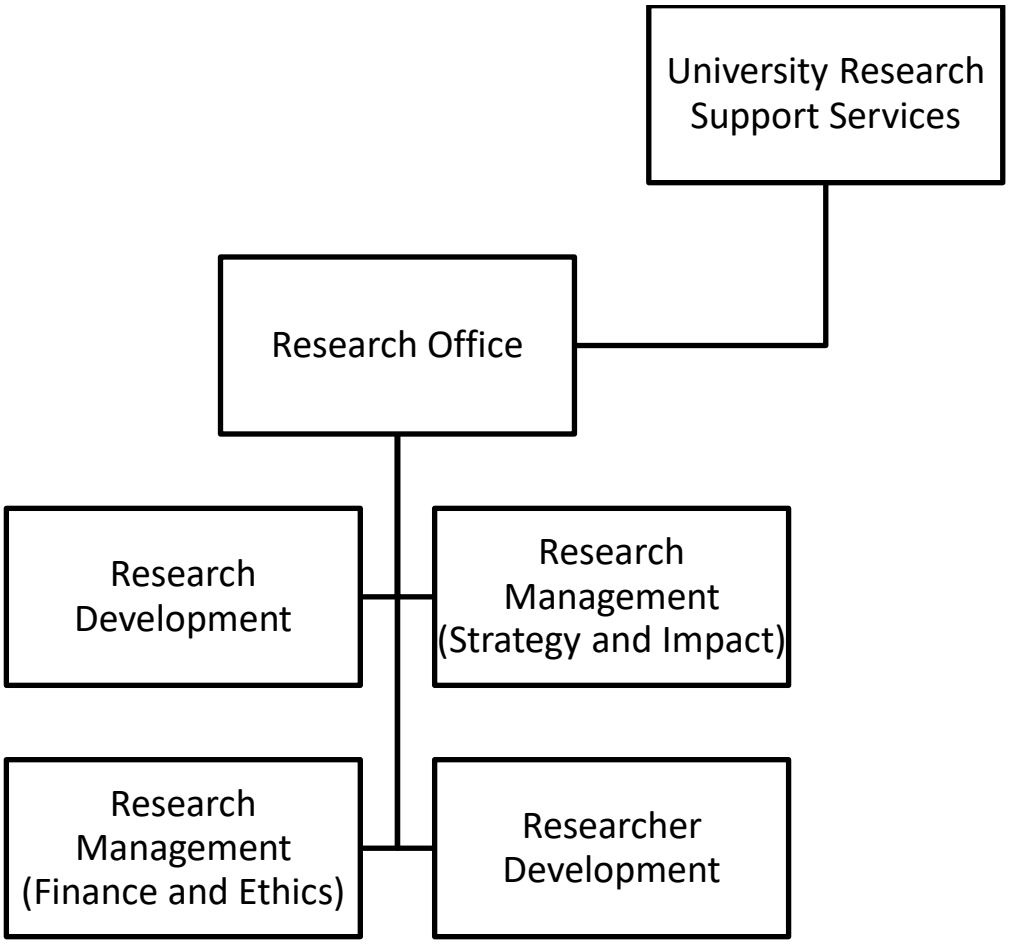
Finally, a case study allows for the testing of theories. In this case, the data collected will be analysed against a set of propositions from the theory - Systems theory and Third Space theory. As a whole, the case study approach allows the researcher to critically assess the complex role of research professional staff in a highly changing research and institutional culture.

4.2.1 *The Case*

University X is a research-intensive public university based in England, UK. It intends to realise its vision and missions through three supporting strategies: *research and impact*, *education* and *professional services*. University X is organised in three faculties: *Health and Life Sciences*; *Humanities and Social Sciences* and *Science and Engineering*. These are further divided into 77 academic departments and 151 research groups. As of 2020, University X consists of over 22,000 students on campus, of which more than 7,700 are international students. Additionally, it has an excess of 10,000 online students from over 160 countries, and a network of 219,000 alumni in 171 countries. As the focus of this research is on research professional staff, the four departments which are research-focused were selected for interview participation. A simplified version of the organisational structure of the research support services of University X is illustrated in Figure 3. The functions of each department and number of personnel are shown in Table 5.

Figure 4

University research support services



Note: Figure created by researcher. This research is focused exclusively on the four research support departments which cover the functions of research management, research development and researcher development.

Table 5

Department titles and functions in each research support department

Department title	Function
Research Office	Work with the University's senior management team to provide leadership and guidance for the other research support departments.
Research Management (Finance and Ethics)	Research financial management, legal and ethical compliance
Research Management (Strategy and Impact)	Development and implementation of institutional strategies and policies and respond to changes in the external research landscape
Research Development	Development of new research initiatives, partnerships and funding applications
Researcher Development	Provides personal and career development for all research staff ranging from postdocs to professors

Source: University X research support services webpage

4.3 Data sampling and methods

The main data collection methods employed for this qualitative case study are semi-structured interviews and document analysis. Participants were recruited using both purposeful and referral sampling. As Fraenkel & Wallen (2009) postulated, "researchers who engage in some form of qualitative research are likely to select a purposive sample - that is, they select a sample they feel will yield the best understanding of what they are studying" (p. 431). The criteria used in the selection of participants is whether they are "information rich" (Patton, 1990, p. 169) that is, whether they are able to share issues and ideas which are of central importance to the purpose of this research that may help address the research questions. With this in mind, the following recruitment criteria were implemented:

a) Research professional staff: Individuals who have substantial experience working with academic researchers for professional development, research application support and/or strategy development.
b) Academic researchers: Individuals who have received research support and/or have worked with research professional staff in the development and implementation of strategies.

Based on the above criteria, the researcher recruited 16 participants in total, consisting of both research professional staff and academic researchers. Participants were approached via email which contained information about the research study. All participants were given the

opportunity and time to raise questions about the study and the researcher ensured all questions were addressed prior to the interview. Written consent was provided in all cases. Table 6 provides details and the generated ID code for each participant.

Table 6

Role, career position and generated ID code of participants

Participant	Participant Role	Participant Career Position	Generated ID code
1.	Academic	Early Career Researcher	AC: ECR1
2.	Academic	Early Career Researcher	AC: ECR2
3.	Academic	Mid Career researcher	AC: MC1
4.	Academic	Professor	AC: PF1
5.	Academic	Professor	AC: PF2
6.	Academic	Professor	AC: PF3
7.	Academic	Professor	AC: PF4
8.	Research Professional	Anonymised	RP1
9.	Research Professional	Anonymised	RP2
10.	Research Professional	Anonymised	RP3
11.	Research Professional	Anonymised	RP4
12.	Research Professional	Anonymised	RP5
13.	Research Professional	Anonymised	RP6
14.	Research Professional	Anonymised	RP7
15.	Research Professional	Anonymised	RP8
16.	Research Professional	Anonymised	RP9

4.4 Semi-structured interview

Data collection phase took place between July and October 2020, with an average duration of one hour per interview. The interview questions (see Annex 1,2,3) were developed from the research questions and following an in-depth literature review on the topic. Three sets of interview questions were developed for academic researchers and research professional staff from the upper and middle management team, respectively. In order to ensure the objectivity of the interview questions, they were peer reviewed by the researchers' supervisors and peers. A pilot interview was also conducted prior to the official interview in order to identify and rectify any issues that may arise from the questions.

The interview questions were grouped thematically into six categories: (1) perception of the external research environment; (2) perception of the institutional research environment; (3) perception of the role of research professional staff; (4) development and implementation of policies; (5) impact and value of research professional staff; and (6) factors influencing collaboration. There was minor variation in some of the interview questions in order to adapt to the different roles of each participant.

In general, participants were asked to provide their perception of the external and institutional research environment; reflect on the role of research professional staff in terms of its value, contribution and challenges; share their experiences of interaction with research professional staff and academic researchers; and provide their vision for the future and recommendations on improving the role of research professional staff. Participants were also offered the opportunity to report on issues and themes not covered by the interview questions. All interviews were conducted via the online video communication platform "Zoom" due to the ongoing COVID-19 pandemic which prevented the researcher from conducting face-to-face interviews. Audio recordings were made and transcripts of the interviews were sent to participants for the purpose of clarity.

4.5 Document Analysis

Bowen (2009, pp. 29-30) provided five specific functions of documentary material. First, documents are materials that 'bear witness to past events' and thus, provide historical insight. Second, information within documents can probe and stimulate the researcher with further questions. Third, documents provide supplementary research data. Fourth, documents show us the evolution of change and development. Finally, documents deliver additional data that can add value and serve as one of the many ways of triangulating and corroborating data. Official published documents from University X were obtained as primary sources of data (Table 7). These documents served to familiarise the researcher with the structures and priorities of research support services at University X, helped to identify the preliminary themes of this research, and were later used to corroborate the statements provided by the interview participants. The documents were analysed using inductive content analysis.

Table 7

List of documents for analysis

Document title	**Obtained from**
1. University Strategy	University webpage
2. University Research and Impact Strategy	University webpage
3. University Strategy and Plans	University webpage

4.6 Qualitative Data Analysis

Qualitative data analysis can be defined as "making sense of data in terms of the participants' definitions of the situation, noting patterns, themes, categories and regularities" (Cohen et al., 2011, p. 537). Braun & Clarke (2006) described thematic analysis as a method for identifying and analysing patterns of meaning in a dataset such as texts. The goal of this exercise is to develop a central narrative from the analysed texts. In this study, the researcher employed thematic analysis to interpret the data and generate themes. Atlas.ti, a coding software, was used to code, annotate, highlight, group and organise the interview transcripts.

4.6.1 *Inductive coding*

In this research, inductive coding was employed to interpret the interview transcripts and documents. The theoretical framework outlined in Chapter 3 was then used to discuss the findings. Inductive coding is a data analysis method which requires the researcher to read and interpret raw and textual data to develop concepts, themes or a process model (Boyatzis, 1998; Corbin & Strauss, 1990). The objective of inductive coding is to allow themes to emerge from the raw data through iterative reading, interpretation and comparison (Cohen et al., 2011).

4.6.2 *Generated themes and codes*

After conducting inductive coding, the researcher aggregated the codes into categories based on the interpreted meanings and subsequently used these to create themes. Table 8 shows the themes and categories. A full list of the generated themes, categories and codes can be found in Annex 6.

Table 8

Themes and categories

Themes	Categories
Research context	• External environment • Institutional environment
Research professional staff role perception	• Skills, knowledge and attributes • Role perception • Role challenges (organisational, cultural and interpersonal)
Research professional staff policy implementation	• Peer review policies • Research impact policies
Academic perception of the role of research professional staff	• Expectations on the role of research professional staff • Perceived impact of research professional staff • Perceived added value of research professional staff • Perception and attitude towards research professional staff • Perception of the skills and knowledge of research professional staff • Academic recommendation on improving the role of research professional staff
Third Space	• Enabling and inhibiting factors affecting the collaboration between research professional staff and academic researchers

4.7 Trustworthiness

Prior to conducting this study, the researcher was employed as a research administrator at the University under study. Thus, the researcher brings both practical experience and a contextual understanding towards the research process. The researcher has also made use of personal contacts as part of the purposive sampling to recruit her participants. Nonetheless, the researcher recognised that whilst these knowledge and experiences are invaluable in illuminating key insight to the study, it could also place the researcher at a disadvantage, where judgement regarding the research design and interpretation of the results could be made biased. Therefore, the researcher ensured that reliability and trustworthiness were critically maintained by ways of triangulation of the research methods and data sources with professors and peers. The issue of trustworthiness in qualitative studies has always been interrogated by positivists due to the concepts of validity and reliability not being fully applicable on naturalistic studies (Shenton, 2004). Lincoln & Guba (1985) who criticised the use of a positivist criteria, instead, developed four criteria to enhance the rigour and trustworthiness of qualitative studies

(Creswell, 2007; Lincoln et al., 2007; Patton, 2013). These criteria are credibility, transferability, dependability, and confirmability.

4.7.1 *Credibility*

The notion of credibility relates to the congruence of any findings with reality (Merriam, 1998), accuracy of the results or confidence in the truth of them (Creswell, 2007; Lincoln et al., 2007; Miles & Huberman, 1994). Lincoln et al (2007) argued that credibility is the most important aspect of establishing trustworthiness in any qualitative study. Credibility includes evaluating the informant and the researcher's interpretations. In the current literature, several strategies that have been put forward to establish trustworthiness are: *triangulation*, *peer scrutiny*, *thick description*, *use of reflective journal*, *random sampling*, *iterative questioning*, *negative case analysis*, *debriefing between researcher and superiors*, *development of early familiarity with culture of participating organisation* (Creswell, 2007; Merriam, 1998; Miles & Huberman, 1994; Patton, 2013; Shenton, 2004). At the minimum however, Creswell (2007) posited that qualitative researchers should adopt methods of *triangulation* and *thick description*.

Throughout this research, the researcher has kept a reflective journal to keep track of her ideas, responses, and biases, and to evaluate the thinking behind the choice of her research design and interview protocol. Further, the researcher has also conducted pilot interviews with five participants to familiarise herself with the current context of research professional staff from University X. After each formal interview, participants were sent a copy of the interview transcript and given the opportunity to respond if any discrepancies were found or provide further elaborations if needed. One participant responded to the transcript by expanding on certain concepts which were not fully elaborated on during the interview. Another participant made minor amendments to the choice of words to better reflect the answers provided during the interview.

4.7.2 *Transferability*

Transferability refers to external validity and generalisability. Merriam (1998) defined external validity as the extent to which the findings of one study is applicable to other situations. Instead of the term "generalisability", Bassey (1981) proposed the term "relatability" (p. 85) to refer to how others may be able to relate to the result and phenomenon, and "extend the boundaries of existing knowledge" (p. 86). The main idea is that if a study is relatable, its findings must be able to reflect and enhance the knowledge of the existing phenomenon and allow individuals outside of the research to be able to relate to the research findings. To address the criteria of transferability, the researcher has provided a detailed background of information to establish the context of her case study of University X (see current chapter, section 4.2.1). Further, interview probes and follow-up questions were used to delve deeper into the participants' perceptions and opinions.

4.7.3 *Dependability*

Dependability refers to reliability which relates to the stability and consistency of the research methods employed, data collected and researcher (Miles & Huberman, 1994). However, one of the challenges of establishing dependability in qualitative research is the changing nature of the phenomena being scrutinised (Marshall, 1999), where it is sometimes impossible to reproduce the exact results and each finding is varied due to the ever-changing context. To address the issue of dependability, the researcher has kept an audit trail on data collection and analyses (see Annex 6).

4.7.4 *Confirmability*

Finally, the fourth measure of trustworthiness is confirmability, which refers to being bias-free and objective in terms of the research methods and findings. Lincoln & Guba (1985) however, stressed the need for the data to be neutral rather than the researcher. To improve confirmability, the generated codes were triangulated by two peer researchers to ensure that the data reliably fits into the categories. Additionally, the coding, interpretation and theme generation processes were cross-checked by two peers for consistency.

4.7.5 *Ethical issues and the researcher's role*

According to Traianou (2014), there are three main principles identified in research ethics: minimisation of harm, respecting autonomy and preservation of privacy. With regards to this research, minimal harm was anticipated other than a possible breach of confidentiality. The preservation of privacy was addressed by ensuring confidentiality of the statements made by each participant and setting up processes to confirm that the data obtained will be destroyed one year after use. Further, the recorded interviews were transcribed and sent to each participant upon completion. Each participant was then given the opportunity to review their respective transcript and provide feedback.

In terms of respecting autonomy, participants' informed consent was obtained. Informed consent refers to the participants' ability to make an informed decision based on accurate and up to date information. Participants were provided with a research participation information sheet (see Annex 4 and 5), which details the research study and the interview protocol. Participants were also explicitly informed that their participation is entirely voluntary and that they were able to leave the study at any time without any consequences. Participants were then asked to sign the sheet if they wish to participate, indicating that they have provided their consent to be part of this research study. Participants were also offered the opportunity to ask questions prior to the interview.

5 Chapter 5: Findings

This chapter presents findings derived from the coding analysis performed on University X's strategic documents, and interviews with research professional staff (n= 9) and academic researchers (n=7). The data analysis yielded the following themes which will form the basis of this chapter. Each theme serves to address the respective research questions outlined in Chapter 1:

- the changing nature of the external research environment,
- an institutional environment underpinned by a culture of hierarchy,
- different approaches in implementing research policy,
- role perception by research professional staff and academic researchers,
- enabling and inhibiting factors influencing the collaboration between research professional staff and academic researchers.

5.1 Perception of external research environment

In general, the data suggest that research professional staff perceive themselves to be operating in a changing external research environment shaped by political (REF), environmental (COVID-19), economic (funding decisions), social (racial and gender issues) and legal drivers (safeguarding) which are immediate, ongoing, and emerging in nature. The majority (n=8) of the research professional staff interviewed described the current external research environment to be unstable, with two research professional staff using the words "volatile" (RP9) and "chaotic" (RP2). One research professional staff labelled it as "stable" (RP8) due to the constant flow of funding stream at the time being.

5.1.1 *Environmental drivers*

The data suggests that the COVID-19 pandemic has affected the university research support function at both a strategic and operational level. The pandemic which peaked in March 2020 has resulted in numerous research projects being postponed. Research funding bodies have extended certain research grants and allocated extra research funds for institutions. Consequently, and in addition to the other measures of social distancing, this has led to new ways of working for research professional staff. One research professional staff (RP2) explained that due to the COVID-19 pandemic, the research costing team at University X were required to "commit to a 24-hour turnaround costing", "find a new way to administer (new funding scheme)", "come up with governance plans at a much tighter time scale" and ensure ethical approvals and clinical trials are in place. Another research professional staff (RP5) highlighted how a major part of her role is now focused on the UKRI [United Kingdom Research & Innovation] grant extension allocation that requires "coordinating the practicalities so that colleagues can actually spend the additional money…", addressing complex queries from

academic researchers and liaising with the "oversight community as to who should or shouldn't receive funding".

5.1.2 *Political drivers*

National drivers identified in the interviews were political agendas which have steered university research for a long time. The main stakeholders recognised were the government and research councils. The predominant drivers identified were the REF and research council demand management. REF is a periodic peer review of research and impact undertaken at UK higher education institutions. The review is administered by the four Higher Education funding councils. Expert panels are appointed to review the quality of research in three distinct categories: Outputs, Impact and Environment.

The outcome of the REF has two major implications: financial and reputational. Financially, the REF outcome determines the allocation of institutional block grant which allows universities to freely invest in strategic research. Therefore, it is imperative for universities to excel in the REF in order to ensure the financial sustainability for research. In terms of reputation, the REF outcome serves as a benchmarking and ranking tool which will influence the attractiveness of the institution for research staff and PhD students.

Data from the document analysis demonstrates that University X has established four strategic research and impact goals in order to better respond towards the REF:

- Growth in research power,
- A commitment to developing international reputation,
- Increasing the public benefit of research,
- Achieving a world-leading submission for REF.

In general, the REF has increased the involvement of research professional staff, specifically in the area of peer review. One research professional staff pointed out that the role of research professional staff has evolved from a reporting, administrative role to an advisory role which involves working closely with the academic community. The interviewee explained that:

> Interestingly, I think it was the first time that we introduced this idea of a critical friend; a professional service person is not just there to do administration or pull together data and write a report which is very functional based. It was actually to engage with the research as it develops, ask awkward questions and point out that this is not actually what the funding call is about, potentially to think about who should be in a part of the team, and suggest to the academic community other people that might need to be in the conversation. (RP3)

5.1.3 *Economic drivers*

The economic drivers of the research environment concern the funding policies and decision-making processes of research grants. Demand management emerged as one of the critical issues

under this theme. Demand management is a process "to reduce the number and size of applications from research organisations to ensure research excellence, efficiency, and value for money for the taxpayer" (NERC, n.d.). This has led universities to be extremely selective with its research applications – only submitting those which are deemed to be of the highest quality and with the best potential to yield a favourable outcome.

Demand management as a topic was discussed most extensively by two research professional staff and one academic researchers. For example, one research professional staff described the challenges in implementing the demand management process:

> …the first time we did it [demand management], we did it for that centre bid, the bid we chose was ultimately a successful bid, we did get that Centre, but there's a huge amount of backlash from that first process, we had people complaining saying we haven't understood the call, who was making these decisions, it took a while for people to understand that the university was having to make some of these demand management decisions internally and that was just the way the funding landscape was going. (RP3)

One academic researcher perceived the demand management process as a quality control rather than a constructive learning exercise:

> …the university's concerned that many of the grant awarding bodies operate in sort of a quality-control policies now whereby they will sort of punish universities if those universities allow people to put in poor quality research proposals. So, there is this kind of danger that you allow people to put in poor quality research proposals. And research councils may blacklist you from putting proposals in the future. So, one of the motivations that universities have is to monitor grant proposals because they do not want people to put in poor quality grant proposals, so that is one element. But that is obviously not the same as teaching them to write good grant proposals, so there is the tension between just monitoring the quality of the proposals and improving the quality of the proposals by teaching people to write better proposals. And the university, I would say tends to focus quite a lot on monitoring and not so much on training. (AC: PF4)

5.1.4 *Social drivers*

Issues on racial inequality and gender gap emerged as two main issues in the current research environment. Research funding agencies have increasingly become more aware of social issues and are urging universities to be mindful of the wellbeing of researchers and maintaining a healthy research environment and culture.

5.1.4.1 Racial inequalities

Race can be defined as "a category of humankind that shares certain distinctive physical traits (Blakemore, 2019, para.1). Racial inequality refers to "the limited economic and social opportunities that are distributed along racial lines" ("Racial inequality", 2008, p.5). One research professional staff indicated how the issues of inequalities have affected the way the university perceives the diversity of its research staff:

> …there has to be inequalities in the system because we can just look at those succeeding. You know with all the recent Black Lives Matter, the energy that is going forward, it has made universities look very carefully at itself and the lack of ethnic diversity within the university. (RP3)

5.1.4.2 Gender gap

Gender gap refers to the "systematic differences in the outcome of men and women on a variety of issues ranging from economic participation and opportunity, political empowerment, and educational attainment to health and well-being" ("Gender gap", 2008, p.277). The same research professional staff highlighted the decrease in research productivity among women during the COVID-19 pandemic.

> …there are reports out at the moment that the COVID-19 restrictions working from home has differentially affected women than men – funders are saying that women are putting in less grants, publishers are saying there's less primary-authored papers being submitted by women at the moment. So, I think we've just got to be aware of the prejudice and biases in the system… (RP3)

5.1.5 *Legal and ethical drivers*

One research professional staff asserted that it is increasingly important to be aware of the legal and ethical aspects of research. This interviewee highlighted an example about the need to safeguard those who are conducting research and also those who are participating in research. An awareness of the critical and pertinent legislations, and ethical guidelines are considered an added value of research professional staff.

> There is a lot of issues arising regarding safeguarding…we send people out to work with very marginalised and vulnerable people. There is a clear potential power relationship there that we need to make sure the researchers are totally aware of and not abusing it. And equally we have got safeguarding issues for staff – we have staff that may be gay and may be going out in a country where homosexuality is illegal, and how are we safeguarding those people? So, there is all sorts of safeguarding areas where I think you know, actually having professional services staff who actually understand the law, the

> legislation and some of the complexity of that can really add value because academics will not necessarily understand all of the issues there. (RP3)

5.2 Perception of institutional environment

This section explores the perception of research professional staff in their institutional environment. Seven indicative themes were identified from interviews with research professional staff: constant changes in staff personnel; duplication and confusion of roles; hierarchy; servants and "otherness"; submissive; barrier; and lack of understanding of role and credentialism.

5.2.1 *Constant changes in staff personnel*

One research professional staff identified that one of the main issues regarding the working environment was the constant changes in staff personnel which impacted the quality of service being delivered. This has also led academic researchers to be frustrated when their expectations were not fulfilled.

> We've had issues because there's been some people on long term sickness, there's been vacant posts, there's been absences, and we're trying to fill gaps of that is challenging and then I think the academics sometimes get frustrated if we can't provide the level of service that they anticipate. Sometimes it really is because we haven't got the people there to sort. (RP3)

5.2.2 *Duplication and confusion of research professional staff role*

Another organisational issue relates to the duplication and confusion of the roles of research professional staff. It was reported that research professional staff at the faculty and central level were performing very similar roles. This is a common observation in most research-intensive universities where they adopt a hybrid approach in research management which consists of both central and devolved structures.

> I think we've just got to the point where we're working on a lot of things but as you know there's colleagues that do really really similar jobs to us but we don't see them we don't know what they're doing, they don't know what we do, we don't know their name, and we work on really similar things. (RP1)

5.2.3 *Hierarchical culture*

One research professional staff described the hierarchical culture within the university where there exists a binary divide between non-academic staff and academic researchers, in a way that

the latter is somehow seen as "better" whilst the former's efforts and talents are not being recognised and acknowledged.

> So I think it's an evolving landscape but I'd still say that there's still some pecking order in academia and I still think that no one would compare a top professional service person with a professor – the professor is still seen as somehow better – and there's sort of I guess not necessarily an acknowledgement to creativity in a lot of their professional services roles because at its best you have to be very very creative, you have to think about how people work and get them to work in certain ways and enable them to think in certain ways and that's a real skill, not everyone can do. (RP3)

5.2.4 *Servants and 'otherness'*

Research professional staff were largely aware of how they were being negatively perceived by academic researchers. For example, one research professional staff felt that academic colleagues viewed him/her as their servant rather than as a partner.

> Some academics will never want to work with research professional staff, or they only see us as their servants not their partners, that we're there to do what - I call it the "cap off" which is we're there to do what we're told, we're not there to act as an equal and to give advice and support based on our own professional standing. (RP9)

Additionally, there were instances when research professional staff were delegated a large share of academic and administrative tasks by their academic colleagues. For example, writing a substantial portion of a research bid and setting up stakeholder meetings.

> Sometimes they'll write the first draft and leave lots of gaps and tell him to write the gaps, and he is very good with initiatives and he's got subject experience so he can write these things then after that they'll ask him to set up meetings so he kind of goes from being a specialist to almost like a servant - professional servant. (RP8)

5.2.5 *Submissive and docile*

Research professional staff also reported that they are supposedly viewed as individuals who are docile and submissive.

> There's still some academics that have a very old-fashioned view that professional services staff are there to be seen but not heard, and there are others that have changed their views completely on this. (RP3)

5.2.6 *Barrier*

Research professional staff were also conscious of the view that they were seen as a barrier for academic researchers. Further, given the fact that research professional staff are not usually specialists in a particular area, academic researchers tend to hold a sceptical view on their ability to support a subject discipline.

> I think a lot of academic researchers think that we are a barrier to what they want to do, that we add unnecessary complexity to their lives and that we can't possibly understand what it is that they do because we are not a discipline specialist. (RP9)

5.2.7 *Lack of understanding of role*

Another research professional staff expressed sentiments about their roles not being acknowledged and recognised enough by academic researchers, and that there was a need to show academic researchers that they are not a "bureaucratic waste of time".

> …a lot of them [academic researchers] cannot quite see what we [research professional staff] could do for them until you sat on them and help to write their bid. I mean it is great that they finally do work it out, it is just a bit annoying that these supposedly critical thinkers need to be spoon-fed to help them understand how we can help, and that we're not a bureaucratic waste of time…(RP8)

5.2.8 *Credentialism*

Although research professional staff are generally considered "non-academics", they work in an area which requires them to work collaboratively with academic researchers. Therefore, having a higher degree such as a PhD may offer a competitive advantage. The below quotes show two different viewpoints about the value of a PhD for the role of research professional staff. One research professional staff stated that even though she has accumulated more work experience in research management, not having a PhD still places her at a disadvantage because of the emphasis on "credentialism" in the academic world.

> Because I don't have a doctorate, I have a master's degree, there are colleagues that do have doctorates sometimes get treated better than I do even though they have either the same or less sophisticated professional experience than me, but because they are doctor so and so they get put up a notch because it's credentialism. (RP9)

Another research professional staff explained that a PhD does not necessarily bring any explicit advantage to him/her. However, it has allowed them to develop "empathy" for academic researchers, as explained:

> It is not necessarily an advantage. Because I know that Y can do her job really well, I don't think she's got a PhD. I don't think it's essential, but it helps me empathise the academic in terms of their time and the distractions that could come up and the pressures that they feel. I think they gave me some good writing and critical thinking skills, but beyond that – that's how I learned to write - from my PhD supervisor. (RP8)

5.3 Approaches in implementing institutional research policies

This section presents findings on the approach of research professional staff in implementing research policies within the institution and the associated challenges faced. The institutional research policies reported in the interviews are the research impact and institutional peer review policies. The data below shows that in order to implement policies effectively, research professional staff have adopted various approaches such as working collaboratively with academic researchers, developing effective systems, educating and advocating policy values, sharing and disseminating results, being transparent and consultative of the implementation process, and balancing incentives and penalties of a policy.

5.3.1 *Implementing research impact policy*

Research impact is defined as "an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia" (REF, n.d.). It is an assessment criterion of the REF and a crucial indicator to justify public investment on research. According to the document analysis, the research impact policy is regarded as one of the most important research strategies for the university, to the extent that it is embedded into the university's core activity and civic mission. The role of research professional staff is to operationalise this policy by engaging and working collaboratively with academic researchers.

5.3.1.1 Create support networks and systems

Data suggests that one of the approaches in which the research impact policy is implemented is by creating a support network and systems for academic researchers. As one research professional staff explained:

> …creating a network of people who know about impact and can champion impact and having support staff who can support that role and across all of those, it's about having suitable systems and having a systemic approach for people to be able to capture the information, review the information and report the information. (RP7)

5.3.1.2 Identify academic champions

There was also a need for research professional staff to identify academic researchers who were able to champion the research impact policy. One academic researcher (AC: MC1) who was assigned the role of "REF impact coordinator" described their role as a "bridging link", a "gateway" and a "conduit" between their department and the central research support team. Their role was to share information and best practice, and support academic researchers within their department to improve the understanding of research impact.

5.3.2 *Implementing Institutional Peer Review policy*

Peer review is defined as "a process of subjecting an author's scholarly work, research or ideas to the scrutiny of others who are experts in the same field…" (Kelly et al., 2014, p.227). As scientific endeavours move towards a multidisciplinary, transdisciplinary and interdisciplinary approach (Schmalz et al., 2019), there is an increasing need to involve both specialist and non-specialist colleagues. Based on the document analysis, the aim of University X's peer review system was to support researchers in submitting high quality applications to external funders. For this purpose, it used a multi-disciplinary approach by employing both specialist and non-specialist assessors in the peer review process.

5.3.2.1 Advocate the values and know-how of a policy

The findings from the interview suggested that, due to the contested nature of the peer review process, there was a need for research professional staff to focus on both the operational and developmental aspects of peer review. For example, the following quote from a research professional staff shows that they do not only facilitate this process but also strive to advocate the values and know-how of peer review, and disseminate the results to the wider academic community. Most importantly, they were required to demonstrate transparency by ensuring the correct reviewers have been chosen.

> To make sure peer review run smoothly because there were so many schemes that needed peer review… and to encourage people around the values of peer review and to train peer review. To inform how peer review works, to pass on the results of peer review to people who were interested particularly the chairs of the panels. To liaise with the chairs of the panel to show that the right reviewers have been chosen. And mock interviews – we used to set up mock interviews so that was the remit. The new remit is more strategic now, to decide if peer review is effective for every scheme that wanted to go forward…(RP8)

Interviews from both senior and early career academic researchers showed that peer reviews should be seen as a positive reinforcement exercise where academic work is assessed to identify areas for improvement rather than to serve as an obstacle, as asserted by one professor:

> Peer review should be constructive to help improve things rather than be used for deciding whether something can go forward or not. It shouldn't be a barrier. (AC: PF1)

Another professor highlighted how the institutional peer review has largely contributed towards the success of the UKRI Future Leaders Fellowship scheme:

> ...The University has done extremely well in winning a number of fellowships and those fellows would attribute a large part of their success down to the detailed feedback that they received from the professional services staff. (AC: PF2)

5.4 Perception of the role of research professional staff

This section presents findings on the perception of the role of research professional staff by both research professional staff and academic researchers. In general, both groups of staff identified this role as predominantly supportive; however, other terms such as "strategic", "developmental", "horizon scanning", "training" and "project management" were also explicitly mentioned.

5.4.1 *Research professional staff perspective*

Overall, research professional staff identified their role as being predominantly supportive; however, they also recognised their involvement in strategic and developmental activities.

5.4.1.1 Supportive role

As mentioned above, the role of research professional staff is primarily to support academic researchers. Here, one research professional staff from the leadership team emphasised the idea about alleviating the burdens of academic researchers.

> ...they [research professional staff] are there to facilitate and enable the research – sort of co-create that environment with people and enable academics to be able then to carry on with their research. So anything that we can do to take away some of the burden to support them [academic researchers] and provide the things from the basics in terms of costing, ensure that they go through the right processes for approvals to the things like peer review and working with people to write better bids and support them in that way (RP2).

5.4.1.2 Developmental role

Coaching and mentoring early career researchers was identified as a particularly valuable and impactful role of the research professional staff. This was because most early career researchers

were often applying grants and fellowships for the first time and therefore, having research professional staff play a critical role in developing their applications as well as coaching and mentoring them with leadership skills were seen as beneficial. One research professional staff below described the process of supporting a cohort of early career researchers in their fellowship applications.

> ...it's about talking them through every step of the process from how to develop an idea that's credible as of £1.2 million proposal all the way through to doing a mock interview to put them through interview-like conditions and get them to understand what they're facing when they've to go up against a high calibre panel of academics and external experts and defend their proposal and I think it's that taking them on that journey that's the biggest added value and being with them at every step of the way to help them understand what they're trying to do. (RP9)

5.4.1.3 Strategic role

Another aspect of the role of research professional staff is to be strategic and knowledgeable about the institution's research strengths and weaknesses. For example, one research professional staff described how her role required her to be equipped with an overall understanding of the external environment and the research strengths and weaknesses of the institution, and identify areas in which the institution may lead in a research bid.

> It is about having an overview of what the external environment, external drivers are. It is understanding what the University's strengths and weaknesses are, where we can lead a bid, where we need to collaborate with others, it's potentially doing a bit of scoping work to work out – you know if we can't lead the bid, who should we go into and some sort of collaborating nationally and internationally. It is about understanding what the priorities are for the university and the region in terms of where we focus on attention. (RP3)

5.4.2 *Academic researchers perspective*

Academic researchers identified four key roles of research professional staff as being critical in supporting their academic research: technical and supportive, horizon scanning, project management and training.

5.4.2.1 Technical and supportive role

Technical help for the costing of research grants was reported to be one of the most crucial areas that needed support. Without this, academic researchers felt that they were unable to submit their research grant application. Early-career, mid-career and senior professors identified support for costing of research grants to be an area that they would require the most support with. A mid-career researcher commented that costing for research grants was the only area that

she would frequently seek support for. This researcher also noted that apart from costing for basic research, there should be more support for the costing of research impact evaluation. This was an element that was identified to be missing in terms of support for research costing.

> In terms of costing for not necessarily research time, or even in terms of costing in sort of other research essentials that people would need to conduct the research I think maybe there's more support needed about how you cost in to demonstrate the impact of your research as well. (AC: MC1)

5.4.2.2 Horizon scanning role

Another significant role of the research professional staff as perceived by academic researchers was the identification of research funding opportunities. Having an awareness of the release dates for calls of research funding and the ability to cascade this information in a timely manner was recognised to be an important area which needed support, as identified by one professor:

> It's almost like keeping an eye on what calls are coming out, when a call comes out, be aware of who it might be relevant to. It's almost like doing horizon scanning of what's coming and letting people know what's coming because I think quite a lot of academics don't see calls until it's very close to the deadline and therefore they haven't really got time to put it together so it's almost like helping academics to plan more in advance. (AC: PF1)

Another participant corroborated the importance of ensuring that academic researchers are informed about the streams of research funding opportunities due to the uncertainty of knowing which funding call their particular research would be best suited in.

> …support about perhaps what funding streams lend themselves to the areas of research that we're working on, so it might be that somebody's working in a particular field and they want to apply for grant funding but they're not entirely sure what sort of grants exist that might sit in line with their research. (AC: ECR2)

5.4.2.3 Project management role

Facilitation of large research grant applications was perceived to be one of the predominant roles of research professional staff. The support for this includes coordinating stakeholder meetings, identifying gaps, project managing and liaising with the university's senior management team. As one senior academic researcher described:

> I see them really in essence, in helping us to get the grant. To know where the calls are coming out, to know which calls are the best ones to go for, for a particular groups of academics. To help with really large grants, bring teams together, get them on track and get things in on time. To make sure the letters of support are all done at the right time, to

> help draft those things like that because somebody's grants need those things. To make sure all the finance are done on time. So I think at that stage they are really really important...(AC: PF1)

5.4.2.4 Training role

Most of the academic researchers (n= 5) identified training and development to be one of the main roles of research professional staff. Grant writing in particular was identified to be an area where it was felt that research professional staff should be able to provide more training and support on, as one professor asserted:

> I think there needs to be more training on how to write grant applications to fit a particular call. I think there's a mindset that people know let's say they always apply for BBSRC therefore they know how to write a BBSRC application. But they actually have to apply to somebody else and they don't really understand that you can't write a BBSRC-type application for a charity for example. So you need to understand how to write a grant application for a particular call that you're applying to. And I think there could be more training in that area – in helping people to understand to do things differently for a particular grant call. (AC: PF1)

5.5 Skills and knowledge of research professional staff

Research professional staff were asked about the critical skills and knowledge they need to perform their role effectively. Data yielded the following categories: "generic skills"; "generalist knowledge"; "expert understanding about the external research environment"; "ability to synthesise"; "time and project management"; and "understanding of research funding schemes". "Generalist knowledge" was identified as a crucial skill by both research professional staff and academic researchers.

5.5.1 *Research professional staff perspective*

In general, research professional staff identified "generic skills" and "general knowledge" as crucial skills in performing their roles; however, they were also aware that this view may not necessarily be shared by academic researchers.

5.5.1.1 Generic skills

Research professional staff identified generic skills such as communication (RP4), curiosity (RP9), creative problem-solving (RP6), managing expectations (RP2) and assertion (RP4) as critical skills which have served their roles well. It was also reported that the skills and role of

research professional staff will continue to expand and become more wide-ranging due to uncertainty within the research environment. As one research professional staff described:

> We won't have roles that's in tiny, neat boxes or responsibilities that are nicely written down, it's going to be a set of generic things that we do in skills and we'll be applying them in lots of different things throughout the year because probably what we'll be doing this time next year – we don't even know yet I guess. (RP1)

5.5.1.2 General knowledge

When research professional staff were asked about the type of knowledge that are critical in helping them to perform their role effectively, one research professional staff identified that having a general knowledge was important. As explained below with the binaries between specialist and generalist knowledge:

> …the fundamental nature of academia is to prize in-depth study into a particular topic or discipline and sometimes very arcane or strange knowledge particularly in the humanities and social sciences or in the sciences being in a world-expert in a particular cellulite and I think the fact that we [research professional staff] are not in the main in-depth people, we are generalist who know a reasonable amount about a lot [compared] to a large amount about a little. (RP9)

5.5.1.3 Expert understanding about the external research environment

One research professional staff further argued that having an overall knowledge about the external research environment allowed them to feed this knowledge back into the institution and improve support for academic researchers who were not well-networked:

> I think research professional staff have a really good, expert understanding of the external research environment, we, as part of our job, are expected to know about government policy, about the way councils are thinking strategically, about gathering intelligence from academics and other professional colleagues through our networks, to be able to understand the way the sector is moving, and we're able to contribute that knowledge back particularly to staff who are not well-networked externally and who aren't involved in discussions themselves, in councils or peer review or something like that. (RP9)

5.5.1.4 Ability to synthesise

The same research professional staff also highlighted that their experience in reviewing numerous research applications have enabled them to synthesise and accurately understand the requirements of funders.

> ...the way we contribute is that we see dozens and dozens and dozens of funding applications, more applications than the average academic will see, and in different disciplines, and in different schemes. And it gives us the ability to synthesise and understand what funders are looking for in a way that an individual academic could not. (RP9)

5.5.2 *Academic researchers perspective*

Academic researchers were asked to identify the skills of research professional staff which they perceived to have contributed towards the success of their research. The following shows that academic researchers attributed the specialist and generalist skills, and knowledge of research professional staff to their success.

5.5.2.1 Time and project management skills

Another professor asserted that research professional staff had the ability to keep academics on track which can be regarded as a time and project management skill.

> ...what I have found very helpful is when there's been somebody from professional services who have kept notes or kept us structured, kept us on subjects, not allowed the academics to get too far, to go off down a red herring. You get a group of academics together and they can end up not actually agreeing anything and just talking about lots and lots of things. And professional services people are very very good at keeping us on track. (AC: PF1)

5.5.2.2 Generalist knowledge

The same professor highlighted that the generalist knowledge of research professional staff was equally important, as it aided academic researchers in writing in a way that was understandable by lay reviewers.

> I think having a generalist knowledge is really important, understanding how to write something to make your point, whether it's to do with you know one tiny bit of science or another tiny bit of science – how do you make that case that it's important. It's the generalist knowledge about the areas, rather than the in-depth knowledge of your particular science that's important from a professional services point of view. (AC: PF1)

5.5.2.3 Understanding of research funding schemes

An early career researcher commented that research professional staff were equipped with an in-depth and up-to-date knowledge about funding scheme.

> The difference was when I spoke to research support – they actually know all the ins and outs everything about the scheme- they've been to seminars about it, they know everything in detail. So the advice they would give you is very tailored within the remit of that scheme specifically. (AC: ECR1)

5.6 Role identities

Data regarding the perception of the role of research professional staff yielded the following identities: "critical friend", "trusted advisor", "administrators", "sounding board" and "primary advisory group".

5.6.1 *Research professional perspective*

On the whole, research professional staff perceived their role to be constructive and critical with the goal of helping their academic colleagues to succeed in their research endeavours.

5.6.1.1 "Critical friend"

Two research professional staff saw their role as a "critical friend" to their academic colleagues where they helped to critically assess and provide advice to academic researchers on research applications:

> ...being a critical friend through putting the right provocations in place through, really understanding what the funder is really wanting in a particular call, making sure that what we're developing actually meets that need...(RP3)

> ...when I came to work in the university, I tried to maintain that and that leads to being like a critical friend - that actually you have got a view and its valued by the academics on the basis of the fact that we've got a lot of experience in terms of understanding how peer review processes work - how funders work, what funders strategy are. I will not be able to critique in great detail the details of a research idea but certainly the way it might be presented. (RP6)

5.6.1.2 "Trusted advisor"

One research professional staff asserted that they found added value of in the role by being a "trusted advisor" for an academic researcher. She compared the "trusted advisor" role of research professional staff to advisors in the realm of politics.

> And I think the added value is that we are being acknowledged more and more and it's getting that trusting advisor in that trusted advisory role. You know in so many places if

> you look at endeavours like you know politics, any MP is going to have a whole raft of advisors behind them, giving them the latest information about anything. They're not just working alone, I think academia has been a bit slow to realise that if you've got really successful, very very busy people which is what successful academics is, having trusted advisors that are knowledgeable about the landscape and how things work, and you know how to communicate things effectively is just a positive things. (RP3)

5.6.2 *Academic researchers perspective*

From the perspective of academic researchers, there were mixed views on the role identities of research professional staff, ranging from menial identities such as "administrators" to more collegial identities such as their "sounding board" and "primary advisory group".

5.6.2.1 "Administrators"

One professor likened the role of research professional staff to "administrators", giving an example of how they tended to focus on form-filling and "window dressing" instead of the scientific aspect of research grant applications.

> There's a tendency for them to behave like administrators who, I mean a good example of this is when you look at research, when they look for research expressions of interest, or when they ask for people to put in draft applications, or short versions of applications in order to monitor them before they go on the later stages in terms of demand management. There tends to be a focus on things like the form, the filling out the sections of the form over and above the case for support. Now, to any academic writing a grant proposal, the key thing is the case for support, a six-page case for support in which you sell your research, and the form is window dressing. (AC: PF4)

5.6.2.2 "Sounding board"

Another professor depicted the role of research professional staff as a "sounding board" where they can openly discuss their ideas, plan and structure of work.

> But if I am putting together a much bigger grant, then actually I need somebody who I can use as a sounding board to discuss my ideas, to put the team together, to work out what's there and what isn't there. And that sort of thing around how to structure it because it's a lot bigger than perhaps what I've got really good experience in writing. (AC: PF1)

5.6.2.3 "Primary advisory group"

Another early career researcher regarded the role of research professional staff as their "primary advisory group", highlighting the fact that they were successful in obtaining their Fellowship award due to the research support that they had received.

> The primary advisory group became research support. If I didn't go to that meeting, I wouldn't have won the award. (AC: ECR1)

5.7 Added value of role

Research professional staff and academic researchers were asked about the added value that research professional staff could bring to their roles. There were differences in the answers obtained from each group. Research professional staff reported that the support for early career researchers and the provision of guidance on research legislations were the biggest added value of their role. Academic researchers identified that research professional staff may provide added value by developing the university's research strategy and fostering a conducive environment and culture within research.

5.7.1 *Research professional staff perspective*

In general, research professional staff perceived that the biggest added value of their role was related to their provision of skills and knowledge which were complementary to those of academic researchers. For example, having a good understanding on the latest legislations regarding research ethics, and coaching and developing early career researchers in terms of leadership skills.

5.7.1.1 Understanding legislations

One research professional staff asserted that academic researchers may not appreciate the complexity of research legislations. Therefore, it was felt that the biggest added value of research professional staff was the fact that they understood and could explain the law surrounding this.

> …actually having professional services staff who actually understand the law, the legislation and some of the complexity of that can really add value. Because academics will not necessarily understand all of the issues there. (RP3)

5.7.1.2 Coaching and mentoring

Another research professional staff highlighted that the added value of their role was linked to the mentorship and coaching provided for early career researchers who were novices in applying for large fellowship grants.

> I would say the biggest added value is, because they're early careers and some of them haven't applied for a lot of grants before- it's getting them to understand what it takes to put in a competitive grant at the scale of the Future Leaders Fellowship (FLF) scheme. For almost everyone that applies for FLF, it is 3, 4, 5, 6, times larger and more complex than anything they've ever done before. And sometimes they don't even know to start and it's about talking them through every step of the process from how to develop an idea that's credible as of 1.2 million pound proposal all the way through to doing a mock interview to put them through interview-like conditions and get them to understand what they're facing when they've to go up against a high calibre panel of academics and external experts and defend their proposal and I think it's that taking them on that journey that's the biggest added value and being with them at every step of the way to help them understand what they're trying to do (RP8).

5.7.2 *Academic researchers perspective*

When asked about the added value of research professional staff, most academic researchers agreed that they had received a great deal of support for research activities at the strategic, institutional, and interpersonal level.

5.7.2.1 Moving forward the university's research agenda

From a strategic point of view, one senior academic commented that research professional staff added value by assisting them in activities aimed at achieving the university's strategic goal. As they described below:

> Put it this way, if they [research professional staff] were not there, you would have a set of individual researchers working in isolation. There would still be grants won, but you are missing out on any added value and the strategic goals, you would not be fulfilling for the institution…So, their input is absolutely invaluable in moving forward that agenda. We as individuals would not be able to deal with those strategic goals. (AC: PF2)

5.7.2.2 Having an institutional overview

One early career researcher commented that the added value of research professional staff was their ability to link individuals from different disciplines as a result of their "bird's eye view" of the research activities across the university.

> …they know who else in the university you should talk to, so their interaction is actually cross-disciplinary…am insular in terms of what's going on elsewhere in the university…but he was very good at pulling in why the university is the best place and crafting it that way and so why the application would fit and seamless in that. And I think

> that's quite good and his knowledge of the university is critical to this. The innovations that they have. (AC: ECR1)

5.7.2.3 Creating a supportive research atmosphere and culture

Another mid-career researcher commented that research professional staff provided value by creating a supportive research atmosphere and culture.

> They [research professional staff] are also very receptive to feedback so for example if I go to them and say or sort of suggest something that will be helpful, they're very receptive to taking that back on board and see if there's something they can do about that. So yes, they do add value. And the atmosphere and culture they create around the support culture is very helpful. (AC: ECR2)

5.8 Impact of service

In general, research professional staff found that demonstrating their impact proved to be a challenge. From the academic researchers perspective, the influence of research professional staff ranged from being very impactful to not impactful at all.

5.8.1 *Research professional staff perspective*

As one senior research professional staff described below, there is a need for research professional staff to better demonstrate their importance especially in less quantifiable areas such as by providing support for the REF.

> …we have got to get much better at this to demonstrate our impact. So, we've kind of challenged the teams this year to try and – can they demonstrate the value of what they do in one or two numbers, and then one or two stories, or one or two case studies… (RP1)

5.8.1.1 "Justify ourselves in terms of pounds and pennies"

Another research professional staff expressed similar challenges about justifying their significance:

> To be able to put a monetary value of what we do is very useful because we've got to justify why I've got a team of X number of people, that's a lot of money – how do I justify that, in the end, the only way I can justify that to Senior Leadership Team is that we helped to bring in 65 million pounds worth of income to the university and that's more than 50% of the income we brought in last year. So, I think in the end we do justify ourselves in terms of pounds and pennies. Even though no one likes to justify their existence. (RP3)

5.8.2 *Academic researchers perspective*

Academic researchers were asked to describe how they perceived the impact of services provided by research professional staff. The answers included very impactful, quite impactful and not impactful. This was mostly related to whether research professional staff contributed to the success of research grant applications.

5.8.2.1 Very impactful

One professor commented that research professional staff had been useful by providing a lay review which helped to improve their application.

> If I go back to my fellowship application so this is a number of years back ago now, I started wanting to put this in and I had a lot of help in terms of structuring the application, having it peer reviewed, having it read by professional services and getting other people reviewing it and really really helpful feedback which I have incorporated in and was sure that it improved my application. (AC: PF1)

5.8.2.2 Quite impactful

One mid-career researcher suggested that although research professional staff had not shaped her research, they assisted by simplifying the process of research application.

> They have not shaped the nature of the research that I conducted so they have not shaped the areas that my research focuses on, they obviously don't shape the methodologies that I've used because all of those things are coming from us academics. But what they have shaped is that they have the capacity to make the process of applying for grants a lot easier and for making sure that we consider all the things that we need to consider in terms of costing. (AC:MC1)

5.8.2.3 Not impactful

Another professor felt that research professional staff had no influence on the outcome of their grant but instead had created additional work.

> So I don't think the research office affected what the decision or the success of the grant, but they certainly made it more difficult rather than you know to put that application in, so they actually created work for us, rather than helping us. (AC: PF4)

5.9 Enablers and inhibitors in the Third Space

Third Space in this study refers to the collaboration between research professional staff and academic researchers. Data from the interviews suggested that there were both enabling and

hindering factors which affect the collaboration between research professional staff and academic researchers within the Third Space.

5.9.1 *Enablers*

Enablers are factors which facilitate and encourage collaboration between research professional staff and academic researchers. Data suggested that majority of the enabling factors stem from the need to establish a common ground between these groups.

5.9.1.1 Shared goal and purpose

One of the enabling factors, as identified by a professor, was to distinguish a shared goal and purpose between research professional staff and academic researchers:

> The research professional staff work very well in helping European Research Council fellowship bids, they work very well with the UKRI fellowships. So, what is needed is a kind of shared goal, a shared aspiration, and then for a group of people [academics and research professional staff] to come together to talk about how to strengthen their research. (AC:PF2)

5.9.1.2 Mutual relationship

Another professor asserted that there needed to be mutual relationship between research professional staff and academic researchers. They explained:

> It is a two-way street. Academics need to form relationships with research professional staff and a lot of them do, and they are friends. But they are still just one or two who treat you [research professional staff] as if you are just a hired staff, 'I [academic] am bringing this much money and you're [research professional staff] here to help me bring money in'. (AC: PF3)

5.9.2 *Inhibitors*

The inhibiting factors of Third Space were those which further polarise the relationship and viewpoints of both research professional staff and academic researchers. Identified factors included a lack of recognition of the role and value of research professional staff, an unclear understanding of the role of research professional staff coupled with poor signposting of services available, and finally, resource constraints which reduce the opportunities for collaboration.

5.9.2.1 Lack of recognition on the role and value of research professional staff

One of the main inhibitors which deter the collaboration between research professional staff and academic researchers was the lack of recognition and value of the role of research professional staff.

> … I still think that no one would compare a top professional service person with a professor – the professor is still seen as somehow better – and there's sort of I guess not necessarily an acknowledgement to creativity in a lot of their professional services roles because at its best you have to be very very creative, you have to think about how people work and get them to work in certain ways and enable them to think in certain ways and that's a real skill, not everyone can do. (RP1)

5.9.2.2 Unclear understanding of role and poor signposting of service

Another inhibiting factor was the fact that the role of research professional staff remains ill-defined to the academic community. This was largely due to the increasingly devolved structures of research support in the university. For example, one academic researcher recalled her problem of seeking for support from the research management office:

> Sometimes the problem is not knowing that a service exists or who to speak to about a service. If you don't know that something exists in the first place, you can't make use of it to the full effect (AC: MC1).

5.9.2.3 Resource constraints

Finally, another inhibitor was due to resource constraints. In this regard, the lack of research professional staff meant that not all academic researchers were provided with equal support. As indicated by one professor below:

> …it is because of the role that I hold that I see this very strong involvement from the professional services staff. I think most academics would not see that same involvement. Just think about it in terms of the numbers. There is probably at least 200 academics in the Faculty of Science and Engineering, there will be maybe 3 professional services staff in the faculty and there will be maybe 10 or 20 in the university who will be addressing these research and impact things. And so most academics may not have a direct interaction with those professional services staff. But the Heads of Departments, the Deans, or the Associate Pro Vice Chancellors, we would not be able to deliver strategic outcomes without working with the professional services staff. But that viewpoint will not be representative of all academics. (AC: PF2)

6 Chapter 6: Discussion and Conclusion

This chapter aims to discuss the findings presented in Chapter 5 and review them in relation to Systems theory and Third Space theory as well as to examine them in light of the relevant literature. Systems theory seeks to explain the various strands of work which are associated with the role of research professional staff. The Third Space theory is used to contextualise the role of research professional staff as 'Third Space' workers and to examine the relationship and collaboration between them and academic researchers.

6.1 The role of research professional staff from a systems and Third Space perspective

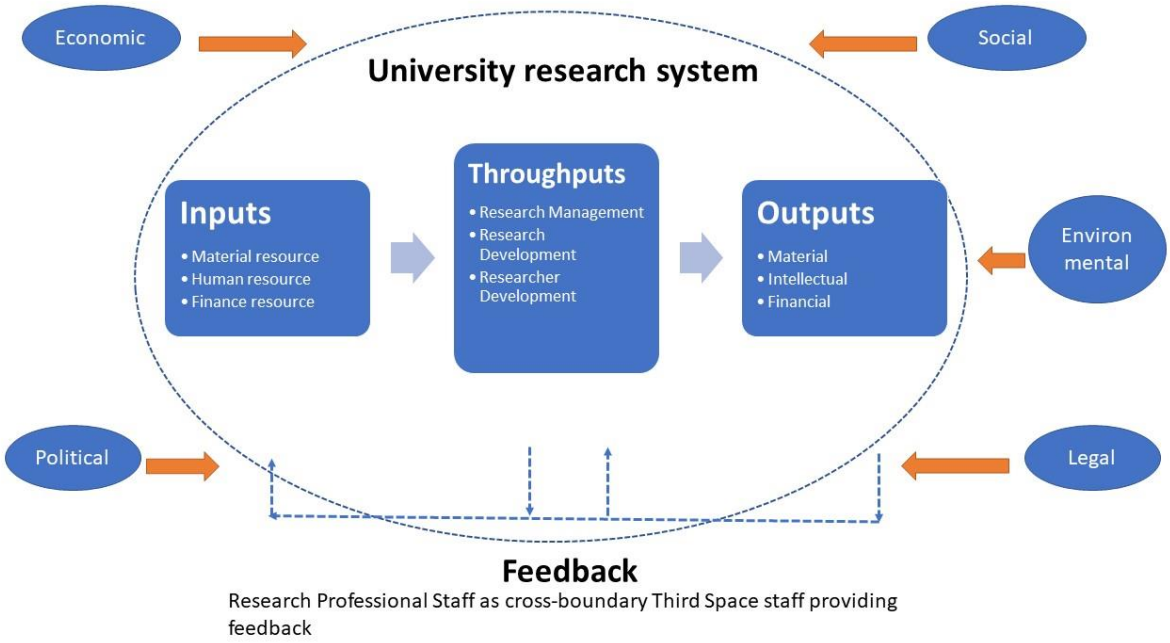
From a Systems perspective, the role of research professional staff is discussed using these concepts: *external environment, institutional environment,* the *input-throughput-output model* and *feedback*. The collaboration between research professional and academic researchers will be studied from a Third Space perspective, with discussions on the different phases that Third Space workers tend to experience: *contestation, reconciliation* and *reconstruction*. Finally, the enablers and inhibitors which influence the collaboration between research professional staff and academic researchers will also be considered.

6.1.1 *External environment*

This study shows that research professional staff are operating in a fast-changing research environment where they are confronted with numerous external drivers from the political (Brexit and REF), economic (demand management), environmental (COVID-19 pandemic), social (gender and racial inequalities), and legal and ethical (safeguarding rules) spheres. Figure 4 shows the external drivers shaping a university's research system, consistent with current literature regarding the external research environment. Miller (2018) provided an overview of changes in the global research environment by interviewing seven research managers from the UK, Canada, United States, Saudi Arabia, China, Australia and South Africa. This study reported that all respondents acknowledged that the research environment is changing, whether in the form of new research councils being established, fresh funding policies or new requirements being introduced.

Figure 5

The role of research professional staff in relation to the external research environment



Note: Figure created by researcher

At a political level, one of the prominent changes is that research is increasingly used to fulfil the goals within politics and economics in many EU countries (Drennan et al., 2013). This has resulted in research being introduced via a top-down approach, where research priorities are determined by governments rather than higher education institutions and academic researchers (Traianou, 2016). At an economical level, due to the scarcity of resources, universities have been driven to conduct internal demand management and peer review to ensure research applications are as competitive as possible (Barry et al., 2001).

In terms of social drivers, there has been growing priorities in promoting equality, diversity and inclusion (EDI) in research. The Wellcome Trust has been proactive in tackling the issues of EDI, evidenced in their major research in 2013 to understand the factors affecting the drop-out rate of women in science and more recently in 2020, their survey research to understand the perception of researchers about the culture of research at their workplace (Poli, 2018). Finally, the legal and ethical aspects of research have also been increasingly prioritised. Traianou (2014) argued that "until quite recently, ethics was seen as an ancillary matter: as important but not as central to the very task of research. In recent years, this has changed significantly" (p.2). As a whole, it is evident that the immediate, ongoing and emerging changes from the external research environment have driven research professional staff to be more receptive towards the state of affairs externally and undertake a more critical role within the university. The following

paragraphs discuss the implications of the external research environment on the role of research professional staff from a Systems and Third Space perspective.

From the perspective of Systems theory, an environment is regarded as any phenomenon influencing the processes and behaviour of a system which is outside of the direct control of the system (Katz & Kahn, 1978). Findings from the study showed that research professional staff have emerged as key players with a role of anticipating, gathering, interpreting and translating research intelligence (input) from the external environment to the institution. For this reason, the role of research professional staff can be regarded as a "cross-boundary professional" (Whitchurch, 2008, p. 384), where they actively leverage their position within and beyond the institution to obtain external intelligence and enhance the research capacities of the institution. Similarly, other researchers such as Leifer & Delbecq (1978, p.40-41) have described this role as "boundary spanner". Specifically, these individuals are defined as "persons who operate at the periphery or boundary of an organisation, performing organisational tasks, and relating the organisation with elements outside it". This indicates that research professional staff have an outward-facing role with the need to identify any arising threats and/or opportunities in the external environment.

6.1.2 *Institutional environment*

The findings from this study highlight that research professional staff perceive themselves to be working in a largely hierarchical institutional environment, underpinned by a culture of credentialism and a preference for specialist knowledge. It was also reported that academic researchers are regarded as the dominant group, whilst research professional staff are regarded as the secondary group. This is consistent with a majority of literature surrounding the academic and non-academic relationship. For example, Kimber's (2003) study showed that academic researchers were regarded as the core workforce. On the other hand, Mcinnis' (1998) study observed that non-academic staff were seen as negligible and offered little contribution. Gray (2015) identified several negative themes surrounding non-academic staff: "the professional other; managerialism; and an expensive bureaucracy" (p. 1). One notable aspect related to the academic and non-academic relation, as highlighted by Hockey & Allen-Collinson (2009), was that although research professional staff may have occasionally experienced some degrees of friction and contestation in their daily work, they also benefitted from the "intellectual companionship, friendship and a shared academic culture" (p. 156). This dual perception is consistent with the opinion of research professional staff in this study. It demonstrated that while research professional staff are frustrated with the negative perception from academic researchers, they feel rewarded and satisfied when their research support for academic researchers leads to success.

Another noteworthy observation from this finding was that research professional staff periodically felt pressured to assume a political role when they are required to be an advisor and peer reviewer during the demand management process. This role compels them to reach joint

decisions with academic researchers in order to eliminate applications which are considered non-competitive. As a result, they are largely conscious of how they are perceived as just an "admin person" (RP9), "professional servant" (RP8), "non-academic" (RP9) or "secretary" (RP9). This corroborates Whitchurch's (2015) observation that Third Space professionals strive to be "non-partisan yet politically aware" (p. 8).

As a whole, the role of research professional staff from an environmental perspective shows that it is constantly evolving with the need to adapt and balance the demands from both internal and external environments. This finding largely reflects Hansen & Moreland's (2004) analogy of the "Janus Face" research administrator. They posited that "one face of research administration must always focus forward on the ever-changing environment, adaptive and dynamic, while the other face must never lose sight of the guiding principles of managing for research, facilitating research, mediating the process, and supporting the faculty. The task is to determine how best to provide those services in the shifting boundaries of a new environment" (Hansen & Moreland, 2004, p. 51).

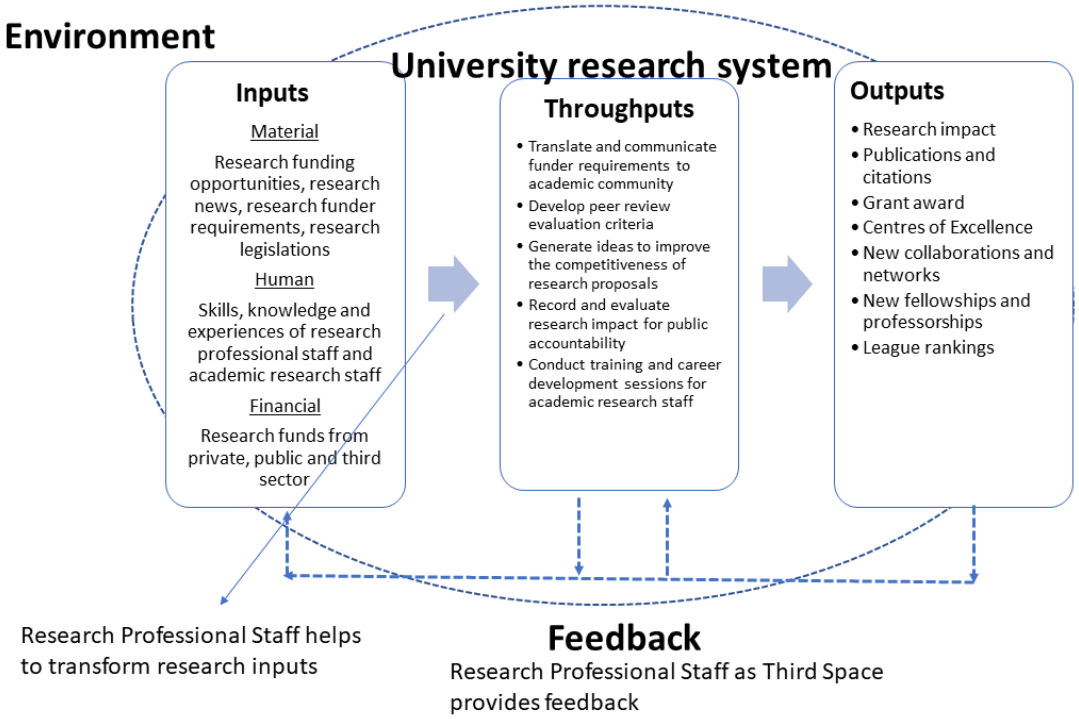
6.1.3 *Input-throughput-output model*

As contended by Green & Langley (2009), individuals outside of the research management profession have found it difficult to situate, define, understand and value the function of research management and the role of research professional staff within a university. Therefore, the input-throughput-output model which stems from Systems theory serves as a useful tool to delineate the multifaceted roles of research professional staff within a complex research university system.

Talbot (2007) argued that the public sector had introduced the input-output model as a performance measurement tool in the 1980s. Baltaru (2019) maintained that this highly rationalised and goal-oriented model was introduced under the climate of the New Public Management (NPM) reforms in higher education. She further stated that due to the growing emphasis on the "input-output" model, non-academic staff have been driven to "use their expertise to help higher education institutions transform inputs (personnel and non-personnel resources) into outputs relevant to the institutional mission (e.g. student attainment in terms of the educative function and research productivity in terms of the knowledge sharing function)" (p. 1185). Indeed, the NPM era is characterised by the need to do more with less, evidenced by a sharp rise in budget cuts, internal competitions, quality control mechanisms and financial targets (Shattock, 2008). Figure 6 illustrates the role of research professional staff based on input-throughput-output model.

Figure 6

Role of research professional staff based on input-throughput-output model



Note: Figure created by researcher

6.1.4 *Inputs*

Drawing on findings from this study, research professional staff are responsible for gathering, interpreting and translating inputs from the environment to the university. This constant flow of input is crucial to ensuring the stability and survival of an organisation (Skyttner, 2005). Whitchurch (2006) argued that universities have become an increasingly open system, like an "amoeba" (p. 3) which is constantly engaging with its external environment. In order for universities to continue to thrive, it is critical to have a workforce such as research professional staff who are able to provide this continual stream of inputs into the university to maintain and develop research capacity.

Findings from this study show that research professional staff translate and implement research policies by working collaboratively with the academic community to safeguard institutional compliance. The inputs identified in this study can be broadly categorised into material, financial and human input (Figure 6). Material input refers to any information about research funding, research policies and legislations and research priorities and trends. In terms of gathering financial input, research professional staff play a key role in targeting and identifying sources of funds for research and ensuring that academic researchers are kept informed in this regard.

Finally, in terms of human input, research professional staff play a key role in guiding and coaching early career researchers in terms of leadership and grant writing skills.

6.1.5 *Throughputs*

Throughputs refer to processes and activities within a system that are used to achieve the intended goals (Skyttner, 2005). The throughput stage involves transforming inputs into outputs which are fit-for-purpose and can therefore be considered as the most critical stage of this process (Skyttner, 2005). The findings in this study showed that research professional staff perform throughput activities such as setting up peer review processes, implementing research impact policies and developing effective systems for recording research publications. These activities serve to optimise the quality and effectiveness of research within a university. Deem (2010, p. 41) delineated four categories of responsibilities of research professional staff:

- direct help with or intelligence related to bidding for research funds and work on funding contracts after receipt;
- work on research strategies and policy;
- work on collecting and collating data on academics' research activity;
- and work on assisting knowledge exchange and transfer.

She argued that research professional staff working in the first category tended to be valued by academics while those working in policy development and implementation may be detested if these policies were not favourable to the academic researchers. Data collection may "either be resented or done unwillingly" (Deem, 2010, p. 42). Overall, there is variation in the way knowledge exchange and transfer activities are received by academic researchers.

In order to perform these activities effectively, the findings reveal that research professional staff are propelled to perform different functions involving strategic, supportive, developmental and advisory roles. This finding corroborates with Hockey & Allen-Collinson's (2009) assertion that the role of research professional staff is in "constant flux, having to adapt to change and make rapid decisions over priorities" (p.156). Equally, Becker (1971) argued that research administrators are required to make collective and individual "situational adjustments" (as cited in Hockey & Allen-Collinson, 2009, p. 156) in the working environment. Whitchurch (2006) formulated the concept of "hybrid" and "multi-professional" (pp. 4-7), referring to staff members who performed translational and interpretive functions between different domains.

Further, the findings demonstrated that each of the roles assumed by research professional staff were linked to a set of different skills such as information gathering, "synthesis" (RP9), "critical assessment" (RP9), "creative problem solving" (RP6), networking and communication (RP4; RP9). Table 9 provides a detailed list of roles adopted and skills employed by research professional staff for each throughput. These roles and skills are critical in guaranteeing that throughputs within the university are processed and developed appropriately to yield desirable outputs. Hockey and Allen-Collinson (2009) maintained that the dynamic nature of the role of

research administrators requires them to utilise a range of skills, from non-cognitively demanding skills to high-order analytical skills.

Table 9

Summary of specific throughputs, roles adopted, and skills employed by research professional staff

Specific throughputs	Roles adopted	Skills employed
Create effective research costing service	Supportive	Problem solving
Create research governance plans	Strategic and supportive	Problem solving
Review research applications through peer review panels	Advisory	Critical assessment
Generate ideas to improve the competitiveness of research proposals	Developmental and advisory	Synthesis, critical thinking
Train and develop early career researchers with leadership skills	Developmental	Coaching and mentoring

Note: Table created by researcher

One of the critical observations concerning the role and skills of research professional staff relates to the theme of generic versus specialist skills. In Shelley's (2010) study, she argues that junior research administrators were moving away from generic administration into specialist research support, thus highlighting that the trend is moving from generic to specialist skillsets. In contrast, this study found that there is a current trend toward generic skills, as argued by one research professional staff in this study:

> We won't have roles that's in tiny, neat boxes or responsibilities that are nicely written down, it's going to be a set of generic things that we do in skills and we'll be applying them in lots of different things throughout the year because probably what we'll be doing this time next year – we don't even know yet I guess. (RP1)

A possible explanation for the difference in observations may be due to the context of the two studies. Shelley's study was conducted in 2010 when there was a higher demand for diversified and specialised research administration and management roles, to the extent that universities were struggling to find appropriate job titles to accommodate an increasingly diverse range of research management and administration roles (Shelley, 2010). This may have led to an over-saturation of specialist roles by 2020. Further, the COVID-19 pandemic created a climate of uncertainty in the research environment. As a result, research professional staff had utilise a

generalist approach to adapt and respond to these changing circumstances. Therefore, the trend towards generic skills is reflective of the current research environment.

6.1.6 *Outputs*

The main outputs of a research university can be broadly categorised into tangible and intangible outputs. Tangible outputs relate to research income, publications, impact and staff appointments. Intangible outputs on the other hand, relate to the research culture, esteem, and prestige of a university. In general, research professional staff have a key role in ensuring outputs in the university are matching or exceeding a university's goals.

Findings from this study showed that research professional staff played a key role in supporting early career researchers to secure fellowship positions and coordinate the institutional REF response. These two examples have been highly regarded by academic researchers and demonstrates that research professional staff are increasingly contributing towards the success of a university. However, there remained an unfavourable view on the role of research professional staff, in the sense that they were seen as mere administrators. This view echoed those of Hockey & Allen-Collinson's (2009) in which they explained that despite the highly qualified nature of administrative groups who have proved to be an essential workforce in the contemporary university by working in close collaboration with academic researchers, they are still regarded as the "second-class 'support staff' citizens" relegated to the "periphery" (p. 157). Indeed, historically, research administrators had always been regarded as those outside of the scientific team, as described by Kaplan (1959), "as a non-scientist, he is regarded by scientist as one of the low men on the totem pole" (p. 26). This observation shows that despite years of transformation and advancement in universities, there is still an ingrained perception that research professional staff are secondary to their academic counterpart.

A central topic of discussion which surfaced from this study was the lack of concrete approach to define and measure the outputs of research professional staff. This is primarily because the outputs of research professional staff are related to their services rather than tangible products such as research publications or income. The expectation on research professional staff is mainly to deliver services which are effective, impactful and of added value. During their service provision, Shelley (2010) argued that research professional staff accumulates research cultural capital from working collaboratively with academic researchers. These cultural capitals contribute towards their credibility and reputation. For this reason, every time an academic researcher succeeds in a research grant, the relevant research professional staff accumulates a shared research capital with them - a foundational element in developing a fruitful and lasting working relationship.

6.1.7 *Feedback*

According to Katz & Kahn (1978), feedback from the output and environment are continuously transported back to input. Open systems rely on feedback loops to provide insight and direction in order to improve its performance and stay competitive. A system which does not utilise feedback is a closed system as it does not interact with its environment. Feedback is used to adjust and regulate the nature of the input in order to produce outputs which are desirable and fit-for-purpose. Feedback comes in the form of positive and negative feedback. Positive feedback signals that the system is moving towards its prescribed course. Negative feedback indicates that the system is deviating from its prescribed course and should be recalibrated.

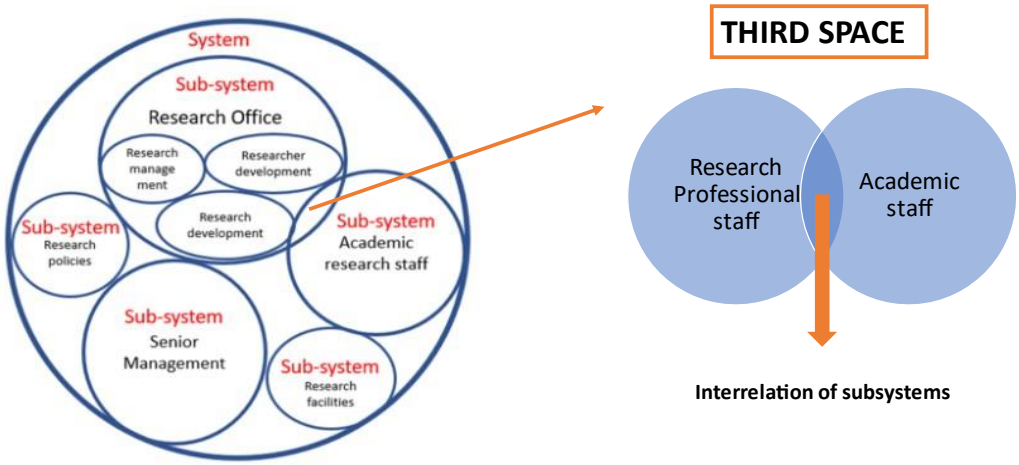
Findings showed that research professional staff act as a feedback loop for the university by analysing the research outputs of the university and gathering, interpreting and importing (inputs) to the institution. A closer look into their role showed that research professional staff are required to review research applications and provide feedback based on the requirements of external funders by utilising their prior knowledge of working with funders and experience of reviewing numerous research grant applications. An example of positive feedback in a university research system would be a successful research grant award. This is an output which signals a positive feedback where individuals can identify the variables which led to this award. The variables in this case may refer to the knowledge, skills, processes and expertise involved in developing the research grant application. If one of these variables were adjusted, it may affect the output. These positive feedbacks are crucial in ensuring that a similar or greater output is generated in the future.

6.1.8 *Interrelation of subsystems (Third Space)*

A system can be broadly defined as "an integrated set of elements, subsystems, or assemblies that accomplish a defined objective" (INCOSE & Wiley, 2015, p. 5). A system consists of subsystems, components, subcomponents and parts which are hierarchically divided. A subsystem is unlikely to be useful on its own and therefore must be integrated with other subsystems in order to be functional (INCOSE & Wiley, 2015). The idea of a system and its subsystems can be examined from a Third Space perspective in order to understand the various domains within a university. In this regard, a university is the main system, while the subsystems are the different domains within a university. Figure 7 shows the interrelation of subsystems from a Third Space perspective.

Figure 7

Interrelation of subsystems from a Third Space perspective



Note: Figure created by researcher

The findings from this study showed that research professional staff require the collaboration and cooperation from academic researchers in order to ensure compliance with policies. Whitchurch (2006, p. 378) posited that a university consists of a management and administrative domain and an academic domain. The management and administrative domains consist of services such as human resources, finance, quality assurance, student services, careers and employability; while the academic domains are occupied with research, teaching and third mission activities. These domains, as argued by Whitchurch, are increasingly blurred and blended, evidenced by a higher level of involvement and collaboration between individuals from both domains. The development of Third Space is due to the diversity of workforce and the increasingly market-oriented university requiring academic researchers to engage in more entrepreneurial and management tasks (Whitchurch, 2006; Slaughter & Rhoades, 2004). Academic researchers are required to work alongside non-academic staff, for example in the areas of careers and employability, or widening participation. A similar concept of "Third Space" is the idea of "interstitial units" theorised by Slaughter & Rhoades (2004, p. 647). Interstitial units refer to the "spaces between existing organisational units that have been developed to manage various new activities in the entrepreneurial university" (Rhoades, 2009, p.41).

6.1.9 *Dynamics in the Third Space*

Findings from the interview suggested that regardless of the experiences and/or number of years in service of research professional staff, they continue to experience some degree of tension with academic researchers within the Third Space. Whitchurch (2006) suggested three possible encounters of individuals working in the Third Space: *contestation, reconciliation* and

reconstruction. These encounters are dynamic and based on an individual's adaptation with their workplace and colleagues. Table 10 provides a summary of Third Space dynamics and descriptions interview findings.

Contestation is characterised by individuals feeling constrained with the existing dominant rules and regulations, and as a result, may inhibit their emotions. This was reflected in the findings where research professional staff continue to perceive themselves to be working in a largely hierarchical workplace with an emphasis on credentialism. They perceived academic researchers to be the dominant group, whilst they are seen as "servants" (RP8; RP9). This was the most divided stage. Findings showed that indeed, some research professional staff still felt that their roles were largely contested because their responsibilities were not properly understood by academic researchers. There was also a tendency to avoid collaborations with academic researchers who were likely to misunderstand or reject their service. Interestingly, research professional staff who held a PhD felt some degrees of contestation with academic researchers, even though having a PhD may have been viewed by some as putting them on the same level playing field as their academic colleagues. Thus, it seems that the PhD skills of some research professional staff are not being valued by their academic colleagues. In a study conducted by Berman & Pitman (2010) of an Australian research-intensive university, they argued that research professional staff with a PhD degree bring along research and transferable skills which are valuable in the area of research management. Therefore, universities should aim to promote and capitalise these skills.

Reconciliation is characterised by a desire to collaborate and form new relationships. Individuals who experience this stage are unbounded by the existing rules and regulations. Veles & Carter (2016) describe this stage as a "unique space, where multi-skilled and cross-skilled professionals operate, and where the real blend of talent happens, the projects develop and are taken to the next level of accomplishment and engagement" (p. 523). In this current study, the REF and development support for early career researchers are reflective of this reconciliation stage, as research professional staff and academic researchers start to engage in activities which complement each other's strengths and weaknesses.

Finally, *reconstruction* is characterised by new activities and fresh relationships as a result of mutual recognition and understanding between staff from different domains. Findings showed that some research professional staff have reconstructed their perception of relationship with academic researchers. Instead of seeing themselves as a "non-academic", they see themselves as a "trusted advisor" (RP1), "critical friend" (RP1, RP6, RP9) and "sounding board" (RP8). Indeed, Whitchurch (2010) argued that "relationships rather than structures are at the heart of the way that Third Space works for individuals and institutions" (p. 21).

Table 10

Summary of Third Space dynamics and descriptions with interview findings

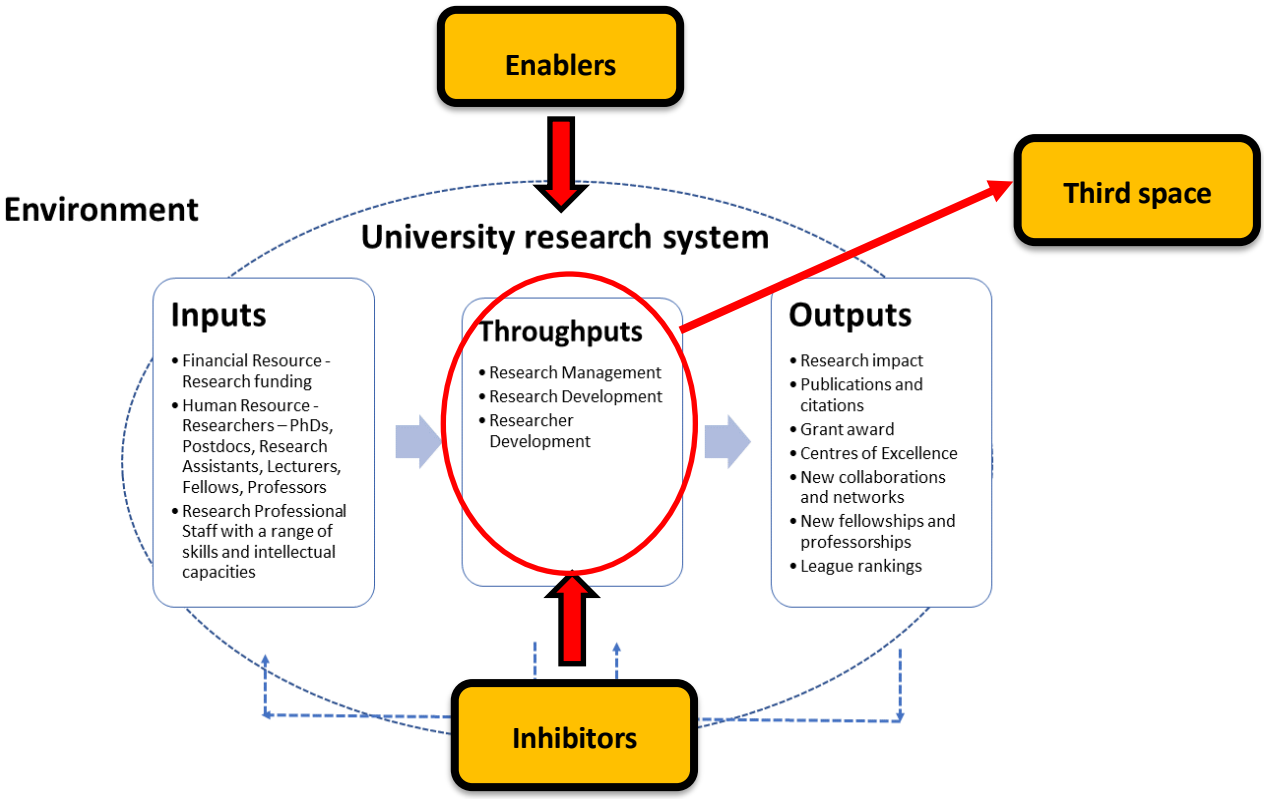
Third Space dynamics	Description	Findings
Contestation	Individuals feel constrained by the existing dominant rules and regulations. Individuals may comply to rules and regulations, but privately detest them.	• Institutional hierarchy, culture of credentialism • Research professional staff seen as "servants instead of partners", otherness and of unequal status
Reconciliation	Desire for collaboration, formation of new relationships unbounded by rules and regulations	• Potential collaborative arena: REF and early career researcher fellowships • Changes to the role of research professional staff: from rigid to more advisory role
Reconstruction	New activities, relationships and new rules and regulations formed from	• Reconstructed role: "trusted advisor", "critical friend" and "sounding board"

6.1.10 *Enablers and inhibitors in the Third Space*

Within a system, there are enablers and inhibitors which affect the lifecycle of the input-throughput-output process. Enablers can be regarded as those which expedite and improve a system, whereas inhibitors can be regarded as those which impede or hinder the system from progressing towards it prescribed course (INCOSE & Wiley, 2015). Figure 8 illustrates the enablers and inhibitors in the context of a university research system and Third Space.

Figure 8

Enablers and inhibitors in the Third Space



Note: Figure created by researcher

Findings from this study identified several enablers which are capable of developing the relationship between research professional staff and academic researchers in the Third Space. The first enabler is the need to have a mutual understanding and recognition of each other's roles, values and expectations. This is supported by Kuo's (2009) view that in this highly complex and diversified higher education environment, "contradictions and cohesion often co-exist in the relationships between academic researchers and administrators" (p. 52). Further, many professional staff have lamented about the "invisibility of their work" (Collinson, 2007, p.306). Therefore, there is a need to develop mutual understanding and recognition. Indeed, Kuo (2009) posited that a professional academic-administrative relationship is characterised by a sense of collegial and constructive relationship whereby academic researchers and administrators are supportive of each other's ideas and endeavours. This also echoes the second enabler, which is the need to have a shared goal and purpose. Gillette (2004) argued that academic researchers and administrative staff occupy separate worlds – academic researchers tend to focus on developing specialist knowledge because that is how they are rewarded; they work in solitude and are both independent and self-directed. Administrative staff on the other hand focus on

identifying the most effective and efficient approaches which can yield benefits for the institution, requiring them to work in a cooperative, professional and compliant manner (cited in Szekeres, 2011). Having a shared goal and purpose requires research professional staff and academic researchers to identify niche areas in which both parties can benefit from. The support for developing the early career researcher fellowships identified in this study is one case in point. Here, research professional staff provide skills and knowledge that early career researchers may be lacking in such as grant writing and leadership skills. Thus, early career researchers may capitalise on these to improve their outputs. In turn, research professional staff feel a sense of satisfaction and reward when these early career researchers succeed in their fellowship application. Overall, these allows for the formation of a healthy collaboration between these groups.

The inhibitors identified in this study (a divided attitude, and a lack of awareness, recognition, understanding of the role of research professional staff) are reflective of Kuo's (2009) characterisation of differential and fragmented relationship. Differential relationships are marked by notable differences in the priorities and work styles of both academic researchers and administrators. Fragmented relationship is signified by lack of interactions and understanding between both groups of staff and a sense of frustration over administrative practices. Table 11 summarises the enablers and inhibitors in the Third Space identified in this study.

Table 11

Enablers and inhibitors in the Third Space

Enablers	Inhibitors
1. Mutual understanding and recognition of each other's roles, values and expectations	1. Divided attitude between academic researchers and research professional staff
2. Shared goal and purpose	2. Lack of awareness, understanding and recognition of the role
3. Desire to collaborate	3. Limited resources which reduce collaborative opportunities between academic researchers and research professional staff

6.2 Conclusion

This study examined the role of research professional staff in supporting academic researchers with research in a university through a qualitative case study approach. Using a Systems perspective, it aimed to delineate the different roles performed by research professional staff and the skills and knowledge employed to perform these roles. This study also sought to investigate the academic-research professional staff relationship and collaboration through a Third Space

perspective. Consistent with other findings, this study highlights the fact that research professional staff are working in an evolving external research environment which require them to perform an outward-facing role in gathering timely and appropriate external intelligence. Within the institution, research professional staff perform multiple roles that have a supportive, strategic and/or developmental element. They also perceive themselves to be working in a hierarchical work culture. Although they hold a positive perception of their own role, they are largely aware of both the positive and negative perception of their role from academic researchers. For this reason, research professional staff strive to balance their approach and demeanor when interacting with academic researchers – they need to be constructive but not overly bureaucratic at the same time. In the process of implementing research policies, research professional staff need to be transparent with their rationale and the process of implementing such policies, share the values and know-how of the policy and develop effective systems which enable academic researchers to comply with these policies more readily.

In terms of the academic-research professional staff relationship, this research showed that there are several cultural and organisational barriers that prevent academic researchers from understanding and recognising the added values of research professional staff. Whilst some research professional staff and academic researchers share a constructive and collegial working relationship, they are the minority and the hierarchical culture has only further polarised the relationship between academic researchers these groups. One of the enabling factors identified using Third Space theory is the need for research professional staff and academic researchers to find a common ground – in identifying the academic and institutional research goals and the support needed to achieve these goals. This would require a concrete approach in constructing a framework of engagement – academic researchers need to articulate their expectations for research support while research professional staff need to demonstrate their strengths in helping academic researchers achieve their research goals.

6.3 Recommendations

Several implications can be drawn from this study. First, the changing external research environment suggests that both the nature of research management and the role of research professional staff will continue to evolve. This suggests that research professional staff will need to further adapt their list of roles. However, if their roles continue to remain unrecognised and contested, this may lead to job dissatisfaction and demotivation. Second, from an academic researchers perspective, the lack of engagement with the research support services may result in more bottlenecks in the research pipeline which may cause some research projects to be delayed and have a negative impact on the overall research productivity of the institution. Therefore, based on the findings, the following recommendations are drawn with the hope to address these potential implications.

6.3.1 *Departmental level*

Findings showed that one of the barriers which inhibit the engagement and collaboration between research professional staff and academic researchers is the lack of clarity on the role of research professional staff and the services that they provide. Therefore, there is a need to provide clear definitions on these roles, and highlight the strengths and added value that research professional staff may offer. This can be achieved by a two-fold strategy - improving the visibility of research services through better web page navigation and distribution of leaflets, and organising events and induction sessions for both new and existing academic researchers to introduce and serve as a reminder for them of the research support services available.

Another issue related to the role of research professional staff was the lack of concrete measures to demonstrate and evaluate the impact of their service. One possible solution would be to work with research professional staff in a collaborative and iterative manner to devise both qualitative and quantitative indicators to measure and evaluate their performance. Moreover, it is important to encourage and instil best practice into research professional staff to engage in constant learning and tracking of their service provisions for academic researchers, by using for example a reflective work journal.

6.3.2 *Institutional level*

The findings demonstrate a need to create an open space for research professional staff and academic researchers to facilitate opportunities for working together. This can be achieved by organising regular events and forums for both academic researchers and research professional staff to devise a collective research support framework based on mutual understandings, goals and expectations. Table 12 provides a framework that serves as a starting point.

Table 12

Framework of academic researchers expectation based on their academic position and the research support required.

Academic position	Academics' expectations and requirements	Support from research professional staff
Early career	• Understand the lifecycle of research application process • Develop CV • Hone grant writing skills • Develop leadership skills • Network with different research groups • Establish independent career trajectory	• Organise induction and pop-in sessions on the research grant application process. • Facilitate grant writing and peer review workshops. • Conduct career and professional development workshops. • Host network building events
Mid-career	• Understand gaps in previous research applications which were not successful. • Information about previous and current research applications • Develop research which align with multiple streams of research funding sources.	• Support in identifying research gaps and trends • Provide information about • Identify potential research groups or stakeholders that could
Senior career	• Project management of multi-stakeholder large research grants • Liaison with university senior management • Network building	• Provide a coherent and tailored project management service. • Be the liaison contact between academic researchers and senior management. • Identify and facilitate opportunities for network building.
All academics	• Be informed about research funding opportunities in line with individual and institutional research goals • Grant management • Develop understanding in Equality, Diversity and Inclusion	• Develop communication and data systems which automatically alert researchers with the latest funding opportunities. • Conduct workshops and provide one-to-one

Note: Table created by researcher

6.3.3 *Sectoral level*

Finally, at the sectoral level, although there are several established associations and networks for research managers and administrators such as ARMA in the UK, European Association of Research Managers and Administrators (EARMA), Voice of Research Administrators – Building a Network of Administrative Excellence (BESTPRAC) and Society of Research Administrators International (SRA International), more efforts need to be invested in updating the professional

developmental resources for research professional staff. This is especially pertinent in the current research landscape which has been impacted by the COVID-19 pandemic. Possible improvements include incorporating newer practices of research management and procedures which have emerged as a result of COVID-19. Additionally, an updated framework to guide research professional staff in supporting academic research in a virtual environment would also be beneficial.

6.4 Limitations of study

The capacity of this study to examine the role of research professional staff in supporting academic research in a university is limited due to several factors. First, from a methodological perspective, the study employed a small sample size (academic researchers [n = 7] and research professional staff [n = 9]). Hence, the opinions garnered from this study may not be representative of the views of all academic researchers and research professional staff. However, the rich and thick descriptions provided by the interview participants were intended to yield degrees of relatability rather than generalisability.

Second, the researcher employed both referral and purposive sampling when selecting the interview participants. Referral sampling may have affected the objectivity of the research as academic researchers who were referred by their colleagues may have been chosen for their biased perception on research professional staff. However, from the interview, it was evident that the referred academic researchers were able to provide a balanced opinion that consisted of both positive and negative views of research professional staff.

Third, from a theoretical perspective, the use of Systems theory provided a limited overview on the role of research professional staff which is thought to be far more complex in nature. The "input-throughput-output" model was too broad to help decipher the detailed roles of research professional staff. Moreover, the positioning of research professional staff using the input-throughput-output model proved to be ambiguous. These observations resulted from the fact that research professional staff were not only responsible for processing input but also considered as "human input" by using their intellectual capacities to manage and develop research within the university. Therefore, the use of Systems theory was not completely clear-cut. However, the strength of Systems theory lies in its ability to illustrate the interrelation and interdependence of the different subsystems (academic researchers and non-academic staff) and it complements the Third Space theory. Most importantly, it highlighted that in order for an effective system to work well, all subsystems must work collectively to achieve a common goal. Finally, any study which aims to examine the perceptions of individuals will often require a longer study period. This is driven by an appreciation that perception and behaviours may change over time and therefore interviewing individuals at a single timepoint based on recent events may not be conclusive.

6.5 Implications for further research

This study employed a case study approach using a research-intensive university in the UK, with a focus on the roles of research professional staff and their collaboration with academic researchers. The methods and findings from this study can be adapted for future research. To increase the generalisability of this research, future studies may select multiple research-intensive universities to form a multi-case study in order to illuminate patterns and trends on the role of research professional staff. Further, this research may have better generalisability if it included research professional staff working at the faculty level and a larger sample size. This will also help us understand if there are any differences in the way research professional staff at the faculty level collaborate with academic researchers, and vice versa.

The findings from this study showed that there are organisational and cultural barriers which inhibit the collaboration between research professional staff and academic researchers. Further studies can be conducted to examine if the career stages, skills, experience and knowledge are some of the underlying factors affecting collaboration between both groups. This can help research managers better plan their human resource allocations.

This study employed Systems theory and the Third Space theory to delineate the roles of research professional staff and their relationship with academic researchers. As discussed above, Systems theory is limited in conveying the contextual and intricate details of the roles of research professional staff. Future research may consider employing mid-level theory such as strategic management to identify how research professional staff anticipate, plan and organise their workload to deliver a more effective service for academic researchers. In terms of the academic-research professional staff relationship, Third Space was used to contextualise the role of research professional staff working in a shifting institutional environment. Social network theory, the study of how people, organisations or groups interact with others inside their network, can be used to provide a broader view on the academic-research professional staff relationship and its subsequent impact on work efficiency.

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Annex 1. Interview Guide for Research Professional Staff (Upper management)

Part I. Perception of the external research environment

1. How would you describe the current external research environment in the UK?
2. Do you see an increase in demands from the external research environment?
3. Based on what you have just described, what would be the challenges for research professional staff?

Part II. Institutional research environment

1. A research environment is made up of tangible and intangible elements – tangible elements being clear policies, practices, procedures, infrastructures, and facilities. Intangible elements being like a supportive, encouraging creative and collaborative research environment. Based on this definition, what is your idea of a healthy research environment in a university?
2. What do you think is the general impact that research professional staff can have on academic researchers and the overall university research environment?
3. Can you describe the vision of the research support departments?
4. How has research support changed in terms of the research support provided for academic researchers?
    a. What have changed, or has there been any changes?

Part III. Research professional staff role in supporting academic researchers

1. What kind of research support services do you think will be increasingly in demand from academic researchers? for example, would it be ethical reviews, peer reviews, partnerships development? Are there any specific areas that will really be in demand in the next 5 years?
2. How do you ensure that research professional staff is equipped with the relevant knowledge and skills to meet the needs of academic researchers?
3. How do you measure the contribution and impact of research professional staff – are there any indicators?

Part IV: Future outlook and conclusion

1. In view of the current external research landscape, which is constantly changing how do you think that will affect the role of research professional staff?
2. Is there anything else that you think is relevant/important to the topic that I did not ask or touch upon?

Thank you again for participating in this interview and contributing to my research as your participation will be very crucial for this study. I will share the interview transcription and result with you in due course.

Annex 2. Interview Guide for Research Professional Staff (Middle management)

Part I. Perception of the external research environment

1. How would you describe the current external research environment in the UK?
2. Do you think it has affected your role in some ways? If so, how?

Part II. Institutional research environment

1. How would you describe the institutional research environment?
2. In your opinion, do you think academic researchers have a clear understanding of the role of research professional staff? (i.e., the responsibilities that they have). Please elaborate the reasons for your answer.

Part III. Research professional staff role in supporting academic researchers

1. I would now like you to think about an example where you have contributed towards the success of an academic researchers member's research grant application.
    - How did you go about guiding and supporting the academic researchers?
    - What aspect did you think was of particular value and benefit to the academic researchers?
    - Can you give me an example when you have come across a challenge when working with academic researchers?
    - How did you overcome the challenge?
    - Was there any aspect of your service which you think you could improve on?

3. What kind of research support service do you think academic researchers value the most? (peer review, partnerships development, targeting research funding opportunities, calculating research costs)
4. What do you think are the barriers for academic researchers to engage with research professional staff?
5. What do you think are the support that academic researchers/researchers truly value from research professional staff?

Part IV. Implementation of research policies and processes

1. Can you give me an example where you implement a research policy?
2. How did you get academic researchers on board?
3. How do you deal with conflict arising in peer review and demand management?

Part V. Skills, knowledge and experience

1. What do you think of the notion of having a PhD as a qualification as a research professional staff?
2. What are the main skills, knowledge and experience that have served you use during your role?

Part VI: Future outlook and conclusion

1. The pandemic has forced us to rethink our working approach. How do you think research professional staff should reorientate their research management approach to better support academic researchers?
2. Is there anything else that you think is relevant/important to the topic that I did not ask or touch upon?

Thank you again for participating in this interview and contributing to my research as your participation will be very crucial for this study. I will share the interview transcription with you in due course.

Annex 3. Interview Guide for Academic researchers

Part I. Identifying academic researchers challenges and research support needed

1. What are the biggest challenges that you face as an academic?
2. What training or support mechanisms would be helpful to address these challenges?
3. When applying for a research grant/bid, what kind of research support do you need most?

Part II. Academic researchers perception of the role of research professional staff

1. How do you perceive the role of research professional staff in terms of supporting academic researchers with their research?
2. What problems/issues do you tend to approach research professional staff with?
3. Prior to working with research professional staff, what were your initial expectations and impressions of them?

Part III. Academic researchers interaction and experiences with Research Professional Staff

1. I would now like you to think about your interaction with research professional staff. Think about the time when you came across an exciting research opportunity that you were keen to apply for.
    a. How did you go about applying for the research opportunity?
2. What kind of guidance and support did you ask research professional staff for?
    a. What aspect of the service provided by research professional staff was of particular value and benefit to you?
3. What skills, knowledge and experience of research professional staff do you think are particularly valuable in supporting your research?
4. What impact, direct or indirect, do you feel research professional staff has had on your research? Please give specific examples.

Part IV. Reflecting on interaction with research professional staff

1. Are there any barriers that prevent you or other academic researchers from maximising the advice/input from research professional staff? Why?
    a. Do you think other academic members in your faculty share the same views as you? Please explain your answer.
2. In your opinion, how can the Research Professional Staff role be improved?
3. Moving forward, what kind of support would you like research professional staff to focus on? (e.g., research staff training, peer review, facilitating internal seed fund, facilitating interdisciplinary collaboration?)

Conclusion

1. Is there anything else that you think is relevant/important to the topic that I did no task or touch upon?

Thank you again for participating in this interview and contributing to my research as your participation have been very crucial for this study. I will share the interview transcription with you in due course.

Annex 4. Research Participant Information Sheet for Research Professional Staff

Master's Candidate Full Name: Woon Yen (Abbie) Loi

Research Topic: The role of Research Professional staff in supporting academic researchers in a university.

The purpose of my proposed research is to examine the role of Research Professional staff in supporting academic researchers in a university. The data I collect from academic researchers, and research professional staff will allow me to obtain multiple perspectives on the role of Research Professional staff.

You have been asked to participate, as you are identified as one of the key personnel who have worked closely with academic researchers and have helped to develop and implement strategies to enhance the university's research environment, in response to the external UK research policy landscape and internal institutional demands. If you decide to participate in this research, you will be asked to take part in a semi-structured interview via Zoom, the online meeting platform for approximately forty-five to sixty minutes. I will audio record the interview and make transcriptions.

Anything said in the interviews will be confidential. Your role will also not be explicitly stated. Since I plan to conduct and transcribe all the interviews myself—and assign you a pseudonym in the process—I will be the only person who knows your identity. The professors on my thesis committee at Danube University Department of Continuing Education, with whom I plan to share my findings, will not be able to identify you by name.

I do not foresee any risks to you other than a possible breach of confidentiality. To protect against that risk, I will ensure that your name does not appear in any transcripts or in any publication or public statement based on the study. All recordings will be destroyed one year after the completion of the project.

You may ask any questions regarding the research, and they will be answered fully. Your participation in the study is voluntary; you may withdraw at any time.

Following the completion of my thesis, I plan to maintain verbatim transcripts for use in future publications and scholarly presentations. I plan to publish my findings as articles in professional journals.

Research Participation Information Sheet

Version 1.0; 10th July 2020

Every effort will be made to respect your rights in relation to the General Data Protection Regulation (GDPR) 2018.

This study has been approved by Danube University Krems Department of Continuing Education Research. If you have questions about the research you can contact me at [redacted] or [redacted]. My master's thesis advisor, Dr. Filiz Keser-Aschenberger, can also be contacted at [redacted] and [redacted].

Your signature in the consent form below indicates that you have read this research participation information sheet, had an opportunity to ask any questions about your participation in this research and voluntarily consent to participate. You will receive a copy of this form for your records. Thank you for your time and consideration.

_____

Woon Yen (Abbie) Loi, Master's Candidate

Research Participation Information Sheet

Version 1.0; 10th July 2020

Research Participation Consent Form

Master's Candidate Full Name: Woon Yen (Abbie) Loi

Full Research Title: The role of Research Professional staff in supporting academic researchers in a university.

Initials

I confirm that I have read the information sheet dated 10th July 2020 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐

I understand that where possible, my information will be kept confidential. ☐

I understand that every effort will be made to respect my rights in relation to the General Data Protection Regulation (GDPR) 2018. ☐

Name of Participant	Date	Signature

Woon Yen (Abbie) Loi

Name of Person taking consent	Date	Signature

Annex 5. Research Participant Information Sheet for Academic researchers

Master's Candidate Full Name: Woon Yen (Abbie) Loi

Research Topic: The role of Research Professional staff in supporting academic researchers in a university.

The purpose of my proposed research is to examine the role of Research Professional staff in supporting academic researchers in a university. The data I collect from academic researchers members and research professional staff will allow me to obtain multiple perspectives on the role of Research Professional staff.

You have been asked to participate, as you are identified as one of the academic researchers who have worked with and have received research support from research professional staff. If you decide to participate in this research, you will be asked to take part in a semi-structured interview via Zoom, the online meeting platform for approximately forty-five to sixty minutes. I will audio record the interview and make transcriptions.

Anything said in the interviews will be confidential. Your role will also not be explicitly stated. Since I plan to conduct and transcribe all the interviews myself—and assign you a pseudonym in the process—I will be the only person who knows your identity. The professors on my thesis committee at Danube University Department of Continuing Education, with whom I plan to share my findings, will not be able to identify you by name.

I do not foresee any risks to you other than a possible breach of confidentiality. To protect against that risk, I will ensure that your name does not appear in any transcripts or in any publication or public statement based on the study. All recordings will be destroyed one year after the completion of the project.

You may ask any questions regarding the research, and they will be answered fully. Your participation in the study is voluntary; you may withdraw at any time.

Following the completion of my thesis, I plan to maintain verbatim transcripts for use in future publications and scholarly presentations. I plan to publish my findings as articles in professional journals.

Every effort will be made to respect your rights in relation to the General Data Protection Regulation (GDPR) 2018.

This study has been approved by Danube University Krems Department of Continuing Education Research. If you have questions about the research you can contact me at [redacted] or [redacted]. My master's thesis advisor, Dr. Filiz

Keser-Aschenberger, can also be contacted at [redacted] and [redacted].

Your signature in the consent form below indicates that you have read this research participation information sheet, had an opportunity to ask any questions about your participation in this research and voluntarily consent to participate. You will receive a copy of this form for your records. Thank you for your time and consideration.

_____

Woon Yen (Abbie) Loi, Master's Candidate

Research Participation Consent Form

Master's Candidate Full Name: Woon Yen (Abbie) Loi

Full Research Title: The role of Research Professional staff in supporting academic researchers in a university.

Initials

I confirm that I have read the information sheet dated 10th July 2020 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐

I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐

I understand that where possible, my information will be kept confidential. ☐

I understand that every effort will be made to respect my rights in relation to the General Data Protection Regulation (GDPR) 2018. ☐

Name of Participant	Date	Signature

Woon Yen (Abbie) Loi

Name of Person taking consent	Date	Signature

Annex 6. Generated themes and derived codes

Themes	Sub-theme	Categories	Codes
External environment	• Political • Economical	• Research policies • Competition	• Research quality and accountability • Research funder requirement • Research excellence • Research funding
Institutional environment/ Status Quo	• Institutional culture (intangible) • Institutional environment (tangible)	• Academic and research culture • Institutional research policies, systems, and procedures	• Hierarchy, • credentialism, • esteem • Tension within institutions, departments and faculties • Peer review, • research costing support, • research impact support
Research professional staff role challenges and issues		• Cultural • Organisational • Individual	• Hierarchical academic culture • Confusion and duplications of the roles of research professional staff • Bottlenecks in research management systems • constant changes in staff personnel • Demand for more generalist and flexibility of skills • Difficulty in demonstrating quantitative value and impact • Value of higher qualifications, • Confidence • work experience
Skills and attributes	• Hard • Soft	• Technical and analytical • Creativity and innovation • Interpersonal and communication	• Use and development of research management systems • Project management

			• Critical bid assessments • Creative problem-solving • Diplomatic • Curious and ability to network • Sharp and confident communication
Knowledge	• Generalist • Specialist	• Contextual and organisational • Technical and analytical	• Understanding of the external and institutional research context • Understanding of how academics work • Understanding of terms and conditions of research funds • Understanding of the impact of research ethics • Understanding of research funder requirements
Research professional role perception	Positive role perception	• Strategic • Critical • Developmental • Advisory • Supportive • Third Space professional	• Institutional understanding • external environmental scanning • Challenging research bids; critical friend • Coaching and mentoring • Providing feedback: trusted advisor • Operational support (reporting and compliance) • In-between, neither admin nor academic
	Negative role perception	• Unequal • The otherness • Political	• Slaves, servants • Admin • Non-academics • Portray their role as non-threatening, not officious, not a competitor

Academic researchers' perception of own challenges	• Collective • Early Career • Established professors	• Tripartite role: research, teaching and admin • Competitive research grants • Establishing independent research career • Expectations to win research grants • Leadership management	• Time detracted away from research • Pressure to winning research grants • Difficulty in establishing career trajectory • Training of early career researchers
Academic researchers' perception of research professional staff	Positive role perception	• Strategic • Advisory • Developmental • Management	• Aligning academic researchers to reach strategic goals • Sounding board • Coaching and mentoring • Coordination of large research bids • Keeping academics on track
	Negative role perception	• Minimal impact and value • Low efficiency • Presumptuous	• Secretarial contribution • Mouthpiece of research funders • Delayed response in service provision • "think they know better than academics"
Academic researchers' perception of university research management		• Quality control vs quality improvement	• Demand management: Restriction of the submission of research application • Quality improvement: More grant writing training needed
Academic researchers' perception of their own strengths and weaknesses	Strengths	• Specialist knowledge • Strategic foresight	• In-depth knowledge about a particular subject • Aligning own research with university's research goals

	Weaknesses	• Non-strategic • Resistance to change • Resistance to feedback • Blind spots in research administration	• Working in silos • Unaware of overall institutional development • Misalignment between own research and university research ambition • Resistant to changing research funding criteria and research trends • Unwilling to accept feedback • Unaware of the latest research funder requirements
Academic researchers' approach to winning research grant	Scientific vs fit to research agenda	Priority in scientific knowledge	• Demonstration of scientific knowledge • Fit to research funder is secondary: "window dressing"
Academic researchers' recommendation on improving RPS role	• Provision of strategic, long-term development • Emphasis of role and strengths	• Work with targeted group of academics • Demonstration of credibility	• Work with smaller groups of academics • Clear articulation of role, strengths, and work experience
Third Space	Success cases	• Building a community of practice	• Non-academic and academic critical input
	Enabling factors	• Shared understanding • Co-creation • Equal status • Acknowledgement • Trust and reliability • Openness for feedback	• Shared understanding of research vision and goals • Joint endeavour between academics and research professional staff • Equal footing of academic and research professional staff • Acknowledgement of the role and value

			of research professional staff
	Inhibiting factors	• Inequality • Lack of understanding and recognition • Blame culture	• Disparity in status, pay and value • Unwillingness to understand research professional staff point of view • Pushing of responsibilities