

**UNIVERSITY OF KWAZULU-NATAL**

**Exploring how the emotional intelligence - social capital nexus in academics impacts third  
stream income: A case study of University of KwaZulu-Natal**

**by**

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### **Exploring how the emotional intelligence-social capital nexus in academics impacts third stream income: A case study of UKZN**

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## List of Acronyms and Abbreviations

4IR	Fourth Industrial Revolution
AADP	Accelerated Academic Development Programme
AI	Artificial Intelligence
BBBEE	Broad- Based Black Economic Empowerment
BRICS	Brazil, Russia, India, China, and South Africa
CHE	Council on Higher Education
COVID-19	Coronavirus Disease of 2019
CPI	Consumer Price Index
CPSs	Cyber-Physical Systems
CWUR	Centre for World University Rankings
DHET	Department of Higher Education and Training
DST	Department of Science and Technology
DTI	Department of Trade and Industry
EQ	Emotional intelligence
HEARD	Health Economics HIV and AIDS Research Centre
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
HEPI	Higher Education Price Index
HESA	Higher Education South Africa
HIV	Human Immunodeficiency Virus
IBM	International Business Machines Corporation
IOT	Internet of Things
IP	Intellectual Property
ITM	Integrated Talent Management
KPAs	Key Performance Areas
MOOCs	Massive Online Offered Courses
NDP	National Development Plan
NGAP	New Generation of Academics Programme

NRF	National Research Foundation
NSFAS	National Student Financial Aid Scheme
NSI	National System of Innovation
NUC	National Universities Commission
NUS	National University of Singapore
PCT	Patent Cooperation Treaty
REACH <sup>T</sup>	Respect, Excellence, Accountability, Client Orientation, Honesty, and Trust
SAP	Structural Adjustment Programme
SAQA	South African Qualifications Authority
SARS	South African Revenue Services
SETAs	Sector Education and Training Authorities
SPSS	Statistical Package for the Social Sciences
SRC	Student Representative Council
SSDC	Student Services Development Company
TB	Tuberculosis
TTO's	Technology Transfer Offices
TVET	Technical and Vocational Education, and Training
UKZN	University of KwaZulu-Natal
UOT's	Universities of Technology
USAf	Universities South Africa

## Abstract

South African universities have been facing financial challenges brought about by the legacy of the apartheid education system. The higher education system is looking for solutions to manage the financial sustainability of institutions. The aim of the study was to determine whether the emotional intelligence and social capital nexus in academics has an impact on attitudes towards third stream income at the University of KwaZulu-Natal (UKZN). Third stream income draws on commercial practice to raise income through consultancy, commercialisation of research, philanthropy and the creation of public private partnerships. A challenge facing institutions is getting academics to participate in third stream income because they are consumed with academic responsibilities of teaching, learning and research. Literature review was conducted, which included the development of a mini case study of UKZN based on the 2017- 2021 strategic plan and factors that impacted third stream income generation at the university. The thesis used the four-dimensional theory of emotional intelligence model of Goleman, Boyatzis and McKee (Goleman et al., 2002:47) and the three-dimensional model of social capital (Nahapiet and Ghoshal, 1998). This thesis used a sequential exploratory mixed-methods case study methodology. The qualitative part of the study comprised 13 interviews and two focus group interviews. The quantitative part of the study was based on 100 respondents who participated in an online questionnaire. The qualitative data analysis used a thematic analysis, and the quantitative data analysis was conducted using SPSS Statistics 26.0 software. The study found a strong relationship between the emotional intelligence – social capital nexus and attitudes towards third stream income. The study recommends the construction of a coaching framework to develop the participation of academics at UKZN in third stream income. Further research is required on the impact of how emotional intelligence can be used to grow social capital in academia. These studies may look at what the motivators are for academics to participate in third stream income generation and how to promote academic benevolence to promote increased social capital to support third stream income generation.

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# CHAPTER ONE – INTRODUCTION AND OVERVIEW OF THE STUDY

## 1.1 Introduction

South Africa is a young democracy that has endured an untenable apartheid education system brought about by unjust imperial laws between 1948 and 1994 that were further entrenched by the Extension of Universities Act of 1959 (Swartz et al., 2019:570). The South African higher education system is still grappling with the remnants of the old apartheid order. An important tenet of the current educational authorities is to realign the education system and bring about social justice for economically marginalised students and parents (Swartz et al., 2019:568). One of the main challenges facing public higher education institutions in South Africa is identifying mechanisms to supplement government funding. The diminishing state subsidies for higher education have forced government higher education institutions to increase student fees and generate revenue through commercial practices (Ayuk and Koma, 2019:176).

The South African Department of Higher Education and Training (DHET) attracted the fastest-growing budget, yet it faces grave sustainability challenges due to the constrained fiscus resulting in the university budget allocation, which has been lagging in relation to projected growth indices (Africa, 2021). This has been brought about by the rapid growth in enrolments, economic downturns, competition for government resources, and the argument of the benefits of returns that accrue to graduates (Heller and Callender, 2016: xviii).

Higher education institutions have been juggling operational decisions, at times postponing maintenance of institutions, due to increasing expenditures, the decline in government funding and an increase in student loans (Alstete, 2014:9). All major DHET policy documents highlight improvements in university infrastructure development, student accommodation and advancements in information technology communication (ICT) (Africa, 2020:31). Further financial pressure on universities has been brought about by the transformation of universities due to competing views regarding the nature of universities, curriculum changes, their relationship to the world of work, technology disruptions and quality demands (Africa, 2020:27).

The financial impact of the recent COVID-19 pandemic and the sustainability of the university system during that period have resulted in the reduction of subsidy funding, smaller transfers, cuts in government research grants, a reduced number of donors and other sources of funding (Africa, 2020:32). It is apparent that the funding of South African universities has been insufficient to

promote efficient knowledge creation, nurture quality graduates, foster sustainable economic development and engender essential transformation in teaching, learning and research (Badat, 2016:76).

This thesis explored how the attitude of academics towards third stream income generation could be strengthened. The focus was on developing a framework to support and increase the participation of UKZN academics in revenue generating initiatives. Research has established that the emotional symbiosis of academics in a university impacts mutual, personal and professional social relations, contributing to norms through caring practices (Askins and Blazek, 2017:1086). When co-workers continuously share a reflective and deep listening space, it ignites opportunities for deeper understanding and sharing, which would create a more trusting, respectful, and empathetic relationship (Kemp, 2009:108). Universities can become more adaptable by encouraging eco-systemic relations that supersede processes, creative projects to replace programmes, cooperation over scheduled activities and the promotion of the change process (Korsakova, 2020:99). This thesis argues that the emotional intelligence – social capital nexus in academics is one of the methods that can be explored to increase university academic participation in third stream income generation. In the current challenging economic climate, university leaders are under pressure to find new methods of generating revenue (Swartz et al., 2019:572).

This chapter looks at the rationale for conducting the study. South African universities are having to contend with the access and redress of the apartheid education system and simultaneously remain relevant to be globally competitive in a challenging and volatile environment. The chapter presents working definitions that define the functional and leadership roles of academics and academic leadership at UKZN within the context of the study. The problem statement which looks at how to increase academic participation in third stream income at UKZN using the emotional intelligence – social capital nexus is unpacked. This is aligned with the research questions and objectives, which look to explore the impact of emotional intelligence and social capital on academic's attitudes towards third stream income generation at UKZN. The intention to develop a framework using emotional intelligence and social capital to increase academic participation in third stream income is introduced. The significance of the study and motivation for the study are discussed. The sequential exploratory mixed-methods case study design methodology used in the study is introduced and a summary of the chapters are presented.

## 1.2 Rationale of study

The South African government is working towards achieving targets set in the National Development Plan (NDP) 2030. Student enrolments at South African universities increased from 16.5% in 2010 to 21.9% in 2019, still short of the NDP: Vision 2030 target, which is to have 27% participation by 2030 (Africa, 2020:25). The South African university sector has been under immense pressure, with student head count doubling between 1994 and 2019 from 495 356 enrolments to 1 074 912 enrolments (Africa, 2020:24). In 2019 the audited number of student headcount at South African public universities amounted to 1 074 912 which was down by – 1,0% from 2018 which was 1 085 568 (Education, 2021:54). Universities in South Africa experience continuous financial shortfalls brought about by increasing operating expenditure and student enrolments, which are not supported by an increase in government subsidies (Jacobs, Moolman and De Beer, 2019:76). Universities South Africa (USAf) claims that South African higher education is underfunded in comparison to other societies. At most universities in South Africa, state subsidies account for two-thirds of unrestricted revenue (USAf, 2018:2).

South African universities individually are struggling with their own and sometimes unique challenges in attempting to join the global transformation in higher education (Swartz et al., 2019:568). This has resulted in the transference of costs to students, which is an unsustainable practice creating acrimonious tensions between students, university management and government (Jacobs, Moolman and De Beer, 2019:128). Since 2015, many South African universities have experienced annual protest action under the hashtag #FeesMustFall, expressing anger at the unaffordability of higher education, especially by the majority of black students (Swartz et al., 2019:272). The “#FeesMustFall” and “#RhodesMustFall” protests forced a zero increase in tuition fees (Murriss, 2016:276). A zero percent fee increase for 2017 was proclaimed on 19 September 2016 for qualifying National Student Financial Aid Scheme (NSFAS) students from families earning less than R600 000, which made up 70% of all university students (Bateman and Bendile, 2016). The proportion of NSFAS qualifying students in the university system has increased from 56 percent of undergraduates in 2020 to 63 percent in 2021 (Walker, 2021).

In September 2016, a violent uprising took place at the campuses of the University of KwaZulu-Natal (UKZN), ignited by the “#FeesMustFall” protests which resulted in the university being shut down for four weeks (Kujeke, 2016:88). Some demands made in 2016 by the UKZN SRC included a denunciation of the proposed 2017 increase in student fees, the termination of all student debt, and the improvement of facilities and infrastructure for student living (Kujeke, 2016:88). Student

protests continued in 2020, and this created further financial challenges for the university management as it also dealt with disruptions created by the COVID-19 pandemic (UKZN CRD 2020:5). Student protests took place on 6 March 2023 at the UKZN Westville Campus and some of the grievances included a lack of student accommodation and the financial exclusion of some students (Mkhize, 2023).

Universities in South Africa are funded from three sources: the first is direct public funding, which is block-released grants based on a formula, including earmarked grants for detailed activities such as the National Student Financial Aid Scheme (NSFAS); the other two sources of funding are tuition fees and third stream income (Bokana, 2015:198). First stream income is accessed from government budgets; second stream income comprises fees from tuition costs; and third stream income is derived from philanthropic funding and academic entrepreneurship (Ntshoe and De Villiers, 2013:71). The South African public higher education system is dependent on recovering costs from second- and third stream income funding caused by emergent priorities and diminishing government higher education funding (Ntshoe and De Villiers, 2013:81).

The South African higher education system requires solutions to address funding, trade-offs, public investment and organised commitment between students and leaders to re-establish the role of universities (Cloete, 2016:1). In the recent past, the corporate model of managerialism was introduced at public universities through the entrepreneurial university concept, which is being propagated through globalisation, neoliberalism, entrepreneurship, and corporate governance (Public Affairs & Corporate Communications, 2005:19). The contention is that universities are not well prepared for private sector ideals and that academics do not have the necessary skills to be entrepreneurs. University leadership is now being forced to align with the managerialism model, which has a direct impact on organisations and organisational culture. This thesis takes cognisance of the challenges that the managerialism model creates for academics and has chosen to work with the emotional intelligence and social capital theories to contribute to easing the transition for academics participating in third stream income and help develop a framework that will assist organisational change culture.

A policy approach could adopt performance funding related to public funds, develop research output contracts, conduct system restructuring such as institutional mergers and promote international competitiveness through excellence (Privot, Claeys-Kulik and Estermann, 2015:9). Research income is mainly used to enable research but also provides financial relief to universities by contributing to bursaries (Burns, 2021). Institutions may seek to aggressively recruit doctoral

students to attract government grant support, which is quite a generous amount of external funding (Buller, 2014:96). An alternative method, which universities themselves are attempting to increase, is third stream income generation through public-private partnerships in medical research, business incubation, technological commercialisation, continuing and professional education (Murphy, Tocher and Ward, 2014:95). Another source of third stream income is philanthropic fundraising by institutional foundations and donations from corporations and external individuals that help universities apply for grants or attract non-financial benefits (Sziegat and Hong, 2020:48). The national Inyathelo benchmarking study on higher education philanthropic funding found that fundraising costs do not exceed 11 cents to the rand (Burns, 2021). However, it must be noted that fundraising and third stream income do come at a cost to the university. This thesis acknowledges that third stream income is only one of the mechanisms that can be used to increase revenue and the focus of this study is to improve university academic participation in third stream income initiatives.

UKZN has been in a financial deficit for a protracted period and strives to be a globally competitive university offering high-quality teaching, learning and research (Corporate Relations Division and the Finance Division, 2015:4). The Vice-Chancellor and Principal of UKZN stated that the university is required to establish strategic actions to mitigate financial risks and prevent a worsening deficit by restoring third stream income, which has been waning despite its intellectual prowess and creativity. (InDEPTH: 21 June 2021). Universities are required to continuously increase budgets and link their goals and aspirations. To continue this trajectory, government subsidies, tuition fees and third stream income are mechanisms that can be used to increase revenues. The university has direct influence over third stream income, which must be considered in a climate of declining subsidies (USAf, 2018:4).

In keeping pace with global university trends, UKZN's 2007- 2016 strategic plan identified its first goal as “to promote African-led globalisation through African scholarship by positioning the university through its teaching, learning, scholarship, research and innovation to enter the global knowledge system on its own terms, bringing knowledge production systems from its local context into global arena” (Corporate Relations Division and the Finance Division, 2015:18). Research-intensive universities pride themselves on strengthening the institution by creating unique differentiators and to achieve this, they cannot rely on public funding alone (AI-Youbi, 2021:44).

In 2004, UKZN established the college model, which became operational in 2005 (2005 Annual Report). The college model is made up of four colleges (College of Humanities; College of

Agriculture, Engineering and Science; College of Health Sciences and College of Law and Management Studies), nineteen schools fall under the four colleges (Appendix: 12). The main feature of the college model is the assignment of the core administrative functions in addition to academic responsibilities, which include assigning budgets to college heads, which are further devolved to schools and budget holders (UKZN, 2010).

Definitions: The definitions below provide clarity on the terminology that is used in this study and working definitions.

### 1.2.1 Executive leadership

*Table 1. 1: UKZN executive management*

<b>Title</b>
Vice Chancellor
Deputy Vice-Chancellor and Head of College: Humanities
Deputy Vice- Chancellor and Head of College: Law and Management
Deputy Vice-Chancellor and Head of College: Health Sciences
Deputy Vice-Chancellor and Head of College: Agriculture, Engineering and Science
Deputy Vice-Chancellor and Head of College: Research and Innovation
Deputy Vice-Chancellor and Head of College: Teaching and Learning
Registrar
Executive Director: Corporate Relations
Executive Director: Human Resources
Executive Director: Student Services
Chief Financial Officer
Executive Director: Institutional Planning and Governance

In this study, the executive management is an approved structure for the above designated positions and will be referred to as executive leadership.

### 1.2.2 Senior leadership

Senior leadership in this study comprises deans, heads of schools and executive directors; and directors of centres, units and wholly owned private entities of the university. Senior leadership reports to their respective deputy vice chancellors.

### 1.2.3 Middle leadership

Middle leadership in this study comprises academic leaders -- teaching and learning, academic leaders -- research, cluster leaders and heads of academic departments. Middle leadership reports to the deans and heads of schools.

#### **1.2.4 Academic leadership**

“Academic Leadership: includes, inter alia, guiding, supporting and facilitating the research of other staff, postgraduate students and, where appropriate, research teams and/or centres at appropriate levels up to and including international standing; mentoring, guiding, supporting and facilitating staff in developing and delivering teaching programs of recognised excellence; and, contributing substantially to university governance and collegiality at discipline, school, college and university levels.” (UKZN, 2019:2). In this study, executive leadership, senior leadership and middle leadership will make up the academic leadership of the university. Leadership can be separated from management and administration, but the converse is not true. Administration comes from the Latin word “administrare” which means to serve. (Public Affairs & Corporate Communications, 2005 #277). Therefore, considering that the University of KwaZulu Natal is a public institution, it is important that the leadership of the institution embrace servant leadership.

#### **1.2.5 Academic**

UKZN defines an academic as “a graduation from lecturer, through senior lecturer, associate professor to full professor.” (UKZN, 2019:2). Therefore, the reference to academic in this thesis refers to those individuals who hold the above designations and are employed in the college, school, department, professional services or in a management position at the university as they may still be involved in academics and research. This thesis will use this working definition of an academic for the study.

#### **1.2.6 Entrepreneurial universities**

Entrepreneurial is a characteristic of a social system understood to encompass the entire university involved in enterprise defined by commercial effort and energy applied to innovate and transform the institution (Clark, 1998:3).

#### **1.2.7 Academic entrepreneurialism**

Academic entrepreneurialism is much broader and includes informal intellectual property and innovative entrepreneurial ventures (Siegel and Wright, 2015:7). Since the advent of university technology transfer offices, academic entrepreneurship has favoured research-driven third stream income, limited to university-industry collaborations and perpetuated by scientists’ commercialisation of research.

### **1.2.8 Social capital**

The simplistic definition of social capital can be explained in two words: relationships matter. Connecting with people for mutual benefit is a powerful force to get things done and achieve goals. (Kilpatrick, 2003:1). Social capital is the collective resources connected to the ownership of a reliable network of established relationships that have mutual association and acknowledgement, providing credits to members of the association (Bourdieu, 1986a:21).

### **1.2.9 Emotional intelligence**

Emotional intelligence is the ability to use one's and others' emotions to achieve maximum effectiveness, combining knowledge and emotions when directing others to a goal (Bavarsad and Rahimi, 2016:2).

## **1.3 Problem statement**

An important part of third stream income generation is the participation of entrepreneurial academics and academic entrepreneurs (Watson and Hall, 2015:50). It has been found that academic entrepreneurs lack the motivation to conduct fundraising and engage confidently with potential customers and investors (Burkholder and Hulsink, 2022:5). Research integrating predictable academic entrepreneurial intentions into a coordinated framework will better inform how individual and situational variables influence the entrepreneurial process (Urban and Chantson, 2017:1).

With growing diversity, traditional methods of assessing university performance through academic entrepreneurship are evolving and one method is to employ institutional theory. (Abreu et al., 2016: 17). Research into third stream income warrants research to be conducted from a micro perspective on academics who may be scientists, engineers and other experts who engage in university research (Balven, 2018:22). Intra institutional third stream income engenders ideation, experimentation, problem solving and collaboration in multidisciplinary teams and support structures (Burkholder and Hulsink, 2022:9). These involve micro-processes that reside within the individual academic and involve cognitive, affective and relational behaviour micro-processes that involve the interaction between academic colleagues extending to an institutional level impacted by policies and other academics (Balven, 2018:23). Universities warrant individual champions that may be academics or in academic leadership positions to work independently to deliver on third stream income projects (Wickham, 2013:7). Nahapiet and Ghoshal, the originators of the three-dimensional theory of social capital, stated that the model developed needs to be used to guide the

investment in individuals and groups to construct frameworks to increase social capital for the benefit of the individual or group (Naphiet and Ghosal, 1998: 262). Bourdieu states that the presence of a social network is not a given and is the product of effort by an institution (Bourdieu, 1986:249). No prior research has used the theory of social capital in combination with the emotional intelligence theory of Goleman, Boyatzis and McKee (2002b:47) to explore whether it would have an impact on contributing to academic participation on third stream income.

Entrepreneurship is an area that merits the application of social capital as an analytical tool, but considerable gaps in research exist in measurement and functioning (Sengupta, 2010:323). Researchers have employed diverse research methodologies in examining academic entrepreneurship in many countries and institutional contexts, but the area lacks a broad range of analysis (Balven, 2018:22). There is limited empirical evidence that describes the internal processes supporting corporate entrepreneurship in academic settings, essentially those pertaining to the engagement of academics.

There is a call for more research in the area of commercialisation of knowledge and commercial strategies in academic institutions (Burkholder and Hulsink, 2022:25). It is imperative for academic leadership to devise strategies and training interventions to improve emotional intelligence among academics and promote knowledge-sharing activities at universities (Hatamleh, 2021:24). Studies have shown that psychological contracts have a major impact on employee performance and relations, yet research between academics and universities is not sufficient (Krivokapic-Skoko, 2008:61). There is opportunity to design programmes to improve emotional intelligence and social capital behaviour, based on empirical evidence rather than unsubstantiated theories (Bar-On, 2007a:12).

Academic leadership is required to ensure financial sustainability and find new methods to source funding, one of which is third stream income generation (AI-Youbi, Zahed and Atalar, 2021:49). The historical past and weak South African economic climate have subjected universities to severe financial strain, creating additional pressure to generate third stream income to sustain the university and adapt to international academic trends (Swartz et al., 2019:572). The executive leadership at UKZN identified that one of the ways UKZN may aspire to be an entrepreneurial university is to develop academics to be entrepreneurs. UKZN's Strategic Plan (2017-2021) highlights the university's ambitions to create an ecosystem to promote a culture of innovation and entrepreneurship (Natal, 2017a:17). UKZN is positioned as a knowledge-intensive university

promoting innovation to generate intellectual property for commercialisation and foster mutually beneficial partnerships (UKZN, 2016:13).

#### **1.4 Aim of the study**

The aim of the study was to explore the emotional intelligence and social capital nexus in UKZN academics and its impact on attitudes towards third stream income generation.

#### **1.5 Research questions**

- 1.5.1 Whether the creation of social capital among UKZN academics, is important to third stream income generation for the university and if so, why?
- 1.5.2 Whether the development of emotional intelligence contributes to strengthening the social capital of UKZN academics for third stream income generation and if so, how?
- 1.5.3 Whether a framework using emotional intelligence can be developed to grow social capital among UKZN academics to raise third stream income at the university?

#### **1.6 Research objectives**

The objectives are to:

- 1.6.1 Determine the impact that the emotional intelligence – social capital nexus has on contributing to academics' social capital in generating third stream income at UKZN.
- 1.6.2 Determine if developing emotional intelligence will influence the creation of social capital among UKZN academics for the benefit of third stream income generation.
- 1.6.3 Develop a framework using emotional intelligence competencies to raise social capital among UKZN academics to grow third stream income generation.

*Table 1. 2: Tabulation of research questions, methodology and methods*

<b>Research Questions</b>	<b>Methodology</b>	<b>Methods</b>
Whether the creation of social capital among UKZN academics is important to third stream income generation for the university and if so, why?	Interviews	Purposive Sampling of academic leadership
	Focus Groups	Purposive sampling middle leadership
Whether the development of emotional intelligence contributes to strengthening the social capital of UKZN academics for third stream income generation and if so, how?	Interviews	Purposive Sampling of academic leadership
	Focus Groups	Purposive sampling middle leadership
	Online questionnaire	Random sampling of academics.
Whether a framework using emotional intelligence can be developed to grow social capital among UKZN academics to raise third stream income at the university?	Online questionnaire	Random sampling of academics.

### **1.7 Significance of the study**

This thesis is significant in that, to the best of the researcher’s knowledge, no previous study has been done using the emotional intelligence – social capital nexus in academics to study attitudes towards third stream income. The study contributes to understanding the micro-processes of academics and how they use emotional intelligence and social capital when engaging with academic colleagues in third stream income initiatives. Understanding UKZN academic’s cognitive and behavioural patterns, emotional intelligence, and propensity to contribute to social capital in third stream income generating activities will help inform interventions. This will provide some insight into how to identify individual and group deficiencies in academics and what approaches can be used to conduct human capital development. Academics' participation in supporting institutional development and sustainability would not only contribute to organisational development, but also have a societal impact.

### **1.8 Motivation for study**

The financial situation in higher education has worsened since the 2008 global financial crisis, when HEIs implemented measures to increase student fees, reduce expenditure, freeze academic

posts and ensure prudent capital infrastructure investments (Ayuk and Koma, 2019:177). Public universities had to consider alternate income generation from other government agencies, crowdfunding, donors, corporations and foundations (AI-Youbi, Zahed and Atalar, 2021:121). The overdependence on the historical business model where unforeseen cost structures is increasing and outstripping financial inflow (AI-Youbi et al., 2021:18). The core business of a public university is becoming problematic as traditionally it has not been geared for business practices (Swartz et al., 2019:568). Policymakers across the globe are encouraging more academics to become entrepreneurial (Burkholder and Hulsink, 2022:4). Research has shown that some research-intensive universities are attracting higher levels of third stream income (Walker, 2021). Studies on institutional theory at selected universities in diverse institutional settings have shown significant contributions at entrepreneurial universities (Abreu et al., 2016:695). It has been identified that a better relationship between knowledge valorisation and academic intrapreneurship can be controlled in academic institutions (Burkholder and Hulsink, 2022:1).

At an institutional level, academic entrepreneurs view university management as having complete control over factors such as time, internal finances, emotional tools and rewards (Burkholder and Hulsink, 2022:24). Academics at universities can employ creative and innovative approaches to generate third stream income and contribute to the financial sustainability of the institution. University academic leadership can encourage academics to contribute to an envisioned financial model by increasing third stream income, increasing the number of fee-paying students, and applying for increased state funding (Jacobs, Moolman and De Beer, 2019:133).

## **1.9 Research methodology**

The study adopted a sequential, exploratory, mixed-methods case study design. The problem identified was whether the social capital – emotional intelligence nexus could be used to develop a framework to improve entrepreneurial attitudes among academics to increase participation in third stream income. The research questions and research objectives were constructed and the methodologies and methods for each research question were identified. The researcher employed a purposive sampling method to identify participants for the qualitative and quantitative part of the study. The qualitative research instruments used semi structured questions to design the interview schedule and focus group questions. A total of 13 interviews and 2 focus groups discussions were conducted. The findings from the qualitative part of the study were used to develop the online questionnaire. The data from the questionnaire was analysed using the SPSS 26.0. The results from both the qualitative and quantitative part of the study were then analysed to produce the findings.

## **1.10 Outline of the thesis**

### **1.10.1 Chapter 1: Introduction and overview of the study**

The chapter provides a brief overview of how the historical remnants of the apartheid higher education system in South Africa ignited the #FeesMustFall protests. Definitions are provided to develop an understanding of the concepts within the study. The funding model of higher education in South Africa is highlighted and the option for universities to source third stream income is justified. The rationale of the study is based on the reduction of government subsidies, the transformation of higher education and the increasing demand for higher education in South Africa. The motivation for the study is based on developing an understanding of micro-processes and an appreciation of how cognitive and behavioural processes in academics can impact the emotional intelligence and social capital nexus in academics' participation in third stream income.

### **1.10.2 Chapter 2: Transformation in the higher education sector**

This chapter looks at the global transformation taking place in the higher education sector. Attention is paid to the influence of the fourth industrial revolution, digitalisation, globalisation and the evolution of the knowledge economy in the higher education sector. An assessment of the developments in the funding of higher education in Australia, the United Kingdom and Nigeria is discussed, followed by an in-depth assessment of the recent developments that took place in the South African higher education sector, considering the strategies to redress the inequalities in the sector.

### **1.10.3 Chapter 3: Theories of social capital and emotional intelligence**

The chapter introduces the theories of social capital and emotional intelligence chosen for the study. The chapter explored the theory of social capital and explained the perspectives of three main theorists, Pierre Bourdieu, Robert Putnam, and James Coleman, who are some of the most prominent contributors to the theory of social capital. The chapter justifies using the Naphiet and Ghosal model as the theoretical framework for social capital. The pros and cons of social capital were investigated. The benefit of social capital to income generation is discussed and the chapter also looks at how social capital contributes to the learning organisation. The literature review of emotional intelligence investigated the historical development of the concept and the evolution of Salovey and Mayer (1990), Bar-On and Goleman, Boyatzis, and McKee's four dimensions of emotional intelligence (Goleman, Boyatzis and McKee, 2002b:47). A justification is provided for why Goleman, Boyatzis and McKee's domains and associated competencies were chosen as one

of the two theoretical models used in this study. A critique of the model and some of the challenges and complexities of the model are unpacked.

#### **1.10.4 Chapter 4: Research methodology**

An overview of the research methodology is introduced to develop an appreciation for the use of the pragmatic paradigm in conducting the study. The pragmatic paradigm appreciates the importance of research methods but places more emphasis on collecting real-world data (Creswell and Clark, 2018:87). The chapter explains why a sequential exploratory qualitative-quantitative design was chosen. This method was chosen because both emotional intelligence and social capital are governed by the internal cognitive processes of an individual. It was therefore important for the study to first use qualitative research in the form of interviews and focus groups to establish the understanding, levels and propensity of emotional intelligence and social capital in academics. This helped identify the outlier statements and gaps that informed the design of the questionnaire. Reliability and validity are discussed with respect to qualitative and quantitative data. The chapter details the processes that were followed to ensure all ethical protocols of the university research ethics were abided by and executed.

#### **1.10.5 Chapter 5: Context of the University of KwaZulu-Natal**

The chapter conducts an in-depth case study of UKZN as the research site of study and focuses on factors that impact the creation of social capital for third stream income generation at the institution. It explains why the case study was done over the period aligned with the UKZN Strategic Plan (2017- 2021). A short overview of the history of UKZN, the recent performance in the global standings of the university, institutional challenges and how UKZN is faring concerning the transformational and performance agenda is presented. Some key aspects of the strategic plan are introduced with the REACH<sup>T</sup> (Respect, Excellence, Accountability, Client Orientation, Honesty, and Trust) value system at its core. The chapter then covers the performance of divisions and UKZN companies involved in third stream income generation.

#### **1.10.6 Chapter 6: Presentation of qualitative results**

The chapter uses a thematic approach to analyse the data collected from the 13 individual interviews and two focus group interviews. The chapter is divided into themes and sub-themes and uses quotations from the individual and focus group interviews to validate and substantiate the qualitative analysis. The analysis of the qualitative data informed the construction of the quantitative questionnaire. The themes that emerged were used to develop the questionnaire.

### **1.10.7 Chapter 7: Presentation of quantitative results**

The questionnaire was informed by the themes that emerged from the analysis of the qualitative data. The themes were set up in a matrix created using the Goleman, Boyatzis and McKee's model domains and associated competencies and the Naphiet and Ghosal framework as the theoretical model for social capital. The chapter presents the results obtained from the analysis of the online questionnaire. SPSS version 26.0 was used to analyse the data. The researcher chose the most relevant information required for the study and provided a descriptive analysis. It also looked at univariate and bivariate correlations and provided an explanation for the collections. The chapter also includes the statistical process and steps that were used to establish the data.

### **1.10.8 Chapter 8: Discussion of findings**

The chapter presents the findings of the study and uses the results from the quantitative and qualitative chapters to conduct the discussions. The discussion is supported by the findings from other related studies and literature from publications. A framework was constructed from the results and the application of the theoretical constructs to the findings from the qualitative and quantitative results.

### **1.10.9 Chapter 9: Conclusion and recommendations**

The concluding chapter presents the conclusions that were established from the findings related to the three research questions and provides recommendations to be considered. The limitations of the study and suggestions for future studies are provided. The outcome of the study was to work towards developing a framework using the emotional intelligence and social capital nexus to improve participation in third stream income.

## **1.11 Summary**

The chapter highlights how student activism under the #FeesMustFall campaign was a significant watershed moment in providing impetus to the radical transformation in the funding of higher education in South Africa. The chapter provides evidence for alternate sources of funding to ensure the sustainability of higher education institutions. Some of the challenges that impact the financial sustainability of the university and the future project targets that university leaders must plan for, which are based on national government aspirations, are explained. The chapter provides definitions of academic and academic leadership, an overview of the three main concepts of the study, which include emotional intelligence, social capital and academic entrepreneurship. It also explains why the nexus between emotional intelligence and social capital is important and how it

can bring about collaboration in developing intellectual capital as a source of third stream income generation. The chapter creates a preamble for the important factors that are discussed in the next chapter, which investigates transformation in the higher education sector.

## **CHAPTER TWO: TRANSFORMATION IN THE HIGHER EDUCATION SECTOR**

### **2.1 Introduction**

The previous chapter introduced the importance of access and redress that are required to address the remnants of the apartheid university education system. It identified the challenges faced with revenue generation in higher education and universities, with a focus on UKZN. It also introduced the exploration of the impact of the emotional intelligence and social capital nexus on academic's attitudes towards third stream income generation at UKZN. This chapter explores the transformation agenda in the global higher education sector, focusing specifically on the public university sector. It looks at what organisational change is taking place at higher education institutions and universities. It provides an overview of some of the attempts being made to support academics in the process of change.

The higher education sector is stratified, and the nature of higher education differs across countries. The discourse in higher education revolves around the increasing separation between higher education legislative bodies, governing councils and national authorities on one side and institutional leadership on the other side contesting the stratification of colleges and universities (Buller, 2014:xiii).

The framework for discussion is based on how the financial position of public higher education institutions is influenced by national legislative policies. It delves further into how transformation in the sector, spurred by technology, globalisation, innovation, and knowledge management, impacts the value of third stream income. The funding models of universities in the United Kingdom, Australia and Nigeria are considered to draw a comparison with the South African funding model.

This chapter focuses on factors that impact the funding mechanisms of higher education and, more specifically, the university sector. The South African public university system is underpinned by planning, funding and quality assurance mechanisms; DHET manages the funding and planning; Council on Higher Education (CHE) manages the quality assurance; and NSFAS provides funding for qualifying students (Education, 2021:29).

## **2.2 An overview of change in academics at higher education institutions**

Organisational change is characterised by moving from the known to the unknown, which is not easily accepted due to uncertainty, and therefore, the case for organisational change must be compelling (Waddell, 2004:165). The workplace environment is impacted by continuous change and uncertainty, requiring psychological contracts with respect to employee trust, dedication, motivation and organisational learning (Krivokapic-Skoko, 2008:61). In getting university academics to accept change, it is important to show them why the current status quo is not working and highlight the dangers, inherent system failures and disadvantages of the current context (Buller, 2014:73). Higher education institutions are required to always remain relevant with respect to teaching, learning, research and creating knowledge that is pertinent to solving contemporary real world problems. Universities are required to operate in much more open and liberal systems, analysing proposed changes through a wider set of lenses that is required in other spheres of the economy. It is imperative to examine innovation, which approaches are more effective with different stakeholder groups, and the validity of the need for change within the system critically (Buller, 2014:53). The “engaged university” fosters new productivity, innovative research paradigms, studentship and creative public-private partnerships (Carstens, 2016:136). Universities are not only learning organisations promoting lifelong learning but also adopting the culture of knowledge management, embracing change and acknowledging feedback from stakeholders (Maric, 2013:224). University academic leadership should guide academics in keeping abreast of developments in teaching, learning and research to attract funders and potential students. It is claimed that the best academics are those who interrogate their own ideas, which become catalysts of change (Buller, 2014:56). Leadership in higher education should promote a participative system to allow for the sharing of new ideas and knowledge, creating greater organisational citizenship and reducing resistance to change (Public Affairs & Corporate Communications, 2005:4)

The triple helix model positions universities within an innovation system along with government and business. In this context, entrepreneurial universities function within a knowledge infrastructure where they innovate, create knowledge, transfer technology and commercialise for economic and technological advancement (Wadhvani et al., 2017:3). In universities with open systems and a distributed organisational culture, stakeholders are more likely to embrace change when it is based on a compelling case, rather than an argument of comparative advantage or another method of justifying it (Buller, 2014:81). Witnessing the digital transformation evolve

from a systems perspective is intriguing, especially when engaging with systems thinking from an organisational development perspective (Church and Burke, 2017:17).

Systems thinking is a useful method to bring about change using appropriate language, communication and soft skills to understand and develop better relationships to bring about behavioural change (Senge, 1994:18). Systems theory looks to understand the functioning of the whole in relation to the interaction of the parts. In systems thinking, the parts are just as important as the whole because each part interacts with other parts, which make up and sustain the whole. In systems thinking, humans are acknowledged as rational and independent individuals effecting rational causality through free choice; on the other hand, humans are seen as parts of the whole impacted by formative causality. The main challenge with understanding systems thinking in relation to people is to attempt to understand their transformation, freedom and involvement in the system. Changing the mindset of academics is important to introduce creativity and promote a receptive culture of change; it is important to show them that innovation and adaptability are possible to develop new behaviour and habits (Buller, 2014:148).

This study outlined the conceptual understanding of social capital and considered the definition provided by Nahapiet and Ghoshal (1998) as a point of departure. Social capital has three constructs: social capital creates new intellectual capital: organisations are fertile to promote high levels of social capital: and social capital increases with density and time (Nahapiet and Ghoshal, 1998:1). The first construct refers to organisational structure, patterns in human connections and nexus in organisational networks; the second is competencies of shared knowledge, shared symbols and understanding; and the third is norms, trust, roles and expectancy (Fandiño *et al.*, 2015:25).

Emotional intelligence is relevant in the creation of social capital as it “improves one’s ability to analyse and synthesise emotions into information to manage social engagement” (Huvila, Ek and Widén, 2014:3). Social capital is important in collaboration as it facilitates human social engagement and connectedness in beneficial relationships (Tzanakis, 2013:2). Internal social capital contributes to the long-term performance culture and institutional learning of the organisation (Shi-Huei Ho and Yao-Ping Penwg, 2016:1). Brooks and Nafukho (2006) researched the relationship between, social capital, emotional intelligence and human resource development and concluded that emotional intelligence is the foundation of social capital, positively influencing human resource development and organisational performance (Huvila, Ek and Widén, 2014:3). There is a positive correlation between socialisation, empathy and social skills, and emotional

intelligence and organisational transformation (Akhavan et al., 2015:140). People with high emotional intelligence believe in their abilities and have a greater incentive to engage in entrepreneurial activity (Javed et al., 2016:59). Having high levels of emotional intelligence gives individuals the confidence to engage more effectively in interpersonal and group relations, display appropriate behaviour, proper department, communicate effectively and build networks (Cherniss and Goleman, 2001:15). Staff feel affective commitment when they are recognised and respected in their organisations and normative commitment is reinforced when organisational norms and values are internalised through engagement and socialisation (Shi-Huei Ho and Yao-Ping Peng, 2016:3).

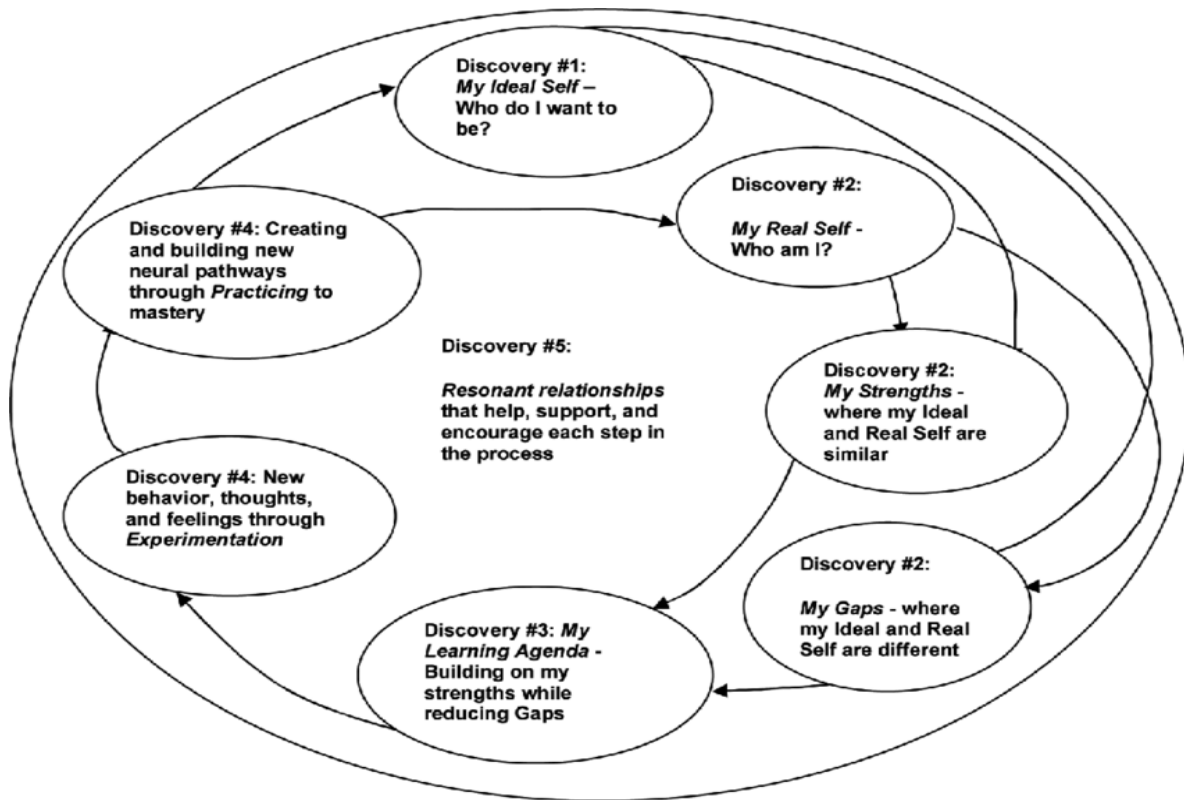
Emotional and social intelligence competencies have garnered much confidence in predicting leadership, management, and professionalism across the world. This affirms that in order to be an effective leader, individuals must possess high levels of skills to appropriately manage their emotions and effectively decipher the emotional cues of others in context. The competencies are found in three clusters: cognitive intelligence (CI), which includes competencies in systems thinking and pattern recognition; emotional intelligence (EI), which includes being competent in adaptability, emotional self-control, emotional self-awareness, positive thinking and being achievement orientated; and the third cluster involves social intelligence (SI), which requires competencies of empathy, organisational awareness, inspirational leadership, influence, coaching and mentoring, conflict management and teamwork. The other crucial factors are knowledge (technical and functional), deductive reasoning and quantitative reasoning (Boyatzis et al., 2013:21). It is prudent to use the STAGES model in tandem with Theory U because the processes followed in structures of attention and those associated with the different levels of listening and conversation align with the sequence of basic learning and pattern recognition according to the STAGES model of development (Gunnlaugson and Brendel, 2019:195).

The traditional approach to coaching leaders involves a discussion of accomplishments and then moving on to areas that require improvement. When the STAGES model and other models of human capital development were compared to Theory U, they were found to be comparable, but they deviate from precision when the model attempts to move from ego- to eco-system awareness (Gunnlaugson and Brendel, 2019:195). This approach is referred to as “coaching for compliance” and it does not consider if the leader wants to be developed in the suggested direction. Although this approach may be required in certain instances, it often creates tension and places the leader being coached in a defensive position. Instead of creating new possibilities, it results in short-term

compliance, which will revert to the original position in the future. It has the potential to cause cognitive, emotional and perceptual impairment, suppressing adaptability, innovation and learning (Boyatzis et al., 2013:21). This type of coaching uses a positive emotional attractor during most coaching interventions. It encourages the use of compassion, which promotes care and trust between the coach and coachee, promoting positive emotions in discovering the ideal self (Boyatzis et al., 2013:22).

### **2.3 Intentional theory of change**

There is not much evidence to support traditional leadership training programmes to create sustainable behavioural change in participants in terms of emotional intelligence (EI) and social intelligence (SI). However, the intentional change theory first developed in the 1990s at the Weatherhead School of Management at Case Western Reserve University has shown an impactful change in leadership seven years after they attended the programme. The programme is orientated toward developing transformative and positive individual, professional, organisational and community development (Boyatzis et al., 2013:23).



**Figure 2. 1: Intentional change theory**

Source: (Boyatzis *et al.*, 2013:20)

Intentional change theory states that desired, sustained change is possible when the five types of discoveries are experienced by the subjects. The first discovery is the activation of an individual’s ideal self, which comprises the individual’s passion, purpose and core values. These factors are generally integrated and defined in a personal vision statement. When individuals connect with their ideal selves, they are then prepared to confront their real selves and when this is achieved, it is considered a strength. The gaps that exist in the connection between the ideal and real selves are considered weaknesses. The acknowledgement of the strengths and weaknesses gives way to the second discovery, which is termed the personal balance sheet. The learning agenda is the third discovery in the change process, which involves the definition of the learning goals and actions that the individual embraces with enthusiasm. This is a defining feature in the model because it is enthusiasm that distinguishes the learning agenda from a personal development plan, which in most cases is related to personal stress and suppresses intrinsic motivation. The fourth phase of discovery involves experimentation involving the practice of new behaviours, thoughts and feelings, moving an individual closer to the desired personal vision while drawing on strengths and dispelling weaknesses. The final, fifth phase involves fostering and maintaining trusting bonds

and support to navigate the change process. This five-stage process encompasses the framework for the leadership development process (Boyatzis et al., 2013:20).

## **2.4 Factors causing transformation at higher education institutions**

### **2.4.1 Transformation in higher education**

Higher education institutions are experiencing significant changes, mainly brought about by advancements in technology, globalisation and an evolving knowledge economy (Buller, 2014:29). Change is organic in all organisations and systems, brought about by tensions within structures (Hourilar et al., 2019:174). Universities are highly active and eminent institutions in society, responsible for evolving ethical, social, and economic development. Leadership at universities is mindful of the different responsibilities and obligations to students, academics, and society (Hourilar et al., 2019:174). In two decades, universities globally have changed from being territorial and having a static form, structure and mode of delivery to having more open systems and greater integration into economies (Buller, 2014:53).

Universities have become creative institutions willing to adopt commercial business practices to deliver accessible, competitive and comparative qualifications. New innovative higher education models have emerged, such as the Stanford 2025 project, where students extend their qualifications over longer timeframes (Gleason, 2018:223). The future skilled workforce requires higher levels of cognitive and socio behavioural skills, which are found across developing and developed countries (Bank, 2018:72). An alternative model is the axis flip, which focuses on skill development and competency training that is continuously upgraded by the student. (Gleason, 2018:223).

Globalisation has spurred international student mobility. Students enrolled in higher education systems outside of their country of citizenship increased from 1.3 million in 1998 to an estimated 5 million in 2014; this number expected to grow to about 8 million by 2025 (Gleason, 2018:42). There is a distinct relationship between excellence, rankings and internationalisation, which shows the competition among research-led universities to attract high-achieving academics and students (de Wit and Altbach, 2021:33). There is a growing trend of higher education institutions wanting to attract foreign students as the model requires them to pay higher fees, which can be used to subsidise local students (Ayuk and Koma, 2019:189). Globalisation and the internet are pushing the envelope on international opportunities. Academics with highly rated profiles can attract

quality university students, increase research opportunities, produce joint qualifications and attract funding (Mushemeza, 2016:241).

The VUCA model developed by Warren Bennis and Burt Nanus (1987) expresses the turbulent world we live in, inflicted by volatility, uncertainty, complexity and ambiguity (VUCA) (Tareque, 2020:1). This raises some of the main challenges with VUCA testing higher education leadership in South Africa (van Vuuren, Visser and du Plessis, 2022:1).

In 2020/1, the COVID-19 pandemic resulted in prolonged closures and the adoption of contingency multi-modal delivery at HEIs (Education, 2021:29). COVID-19 has negatively impacted the financial management of the university system, resulting in a reduction in funding through institutional subsidies, government transfers, research funding and a drop in donor funding (AI-Youbi, Zahed and Atalar, 2021:81). The COVID-19 pandemic will have short- and long-term effects on the number of funded research projects due to the reprioritising and diminishing of funding due to the reallocation of funds by the government (AI-Youbi et al., 2021:45). Public universities in South Africa had to reprioritise government funds, plan for block grants and earmark grants to develop online learning platforms to support distance learning (DHET, 2021:53).

The COVID-19 pandemic has forced universities to reorient and concentrate on developing local sectoral and institutional strengths, tapping into distinctive institutional and academic formations. (Coates, Xie, and Hong, 2021:169). The South African Minister of Education sanctioned the R 2.7 billion COVID-19 Responsiveness Grant to enable universities to develop online systems, ensure health and safety at universities, and support the completion of the academic year (Education, 2021:29). This intensified the need to develop new university models in a climate of global uncertainty and volatility (AI-Youbi, 2021:37).

Universities implemented strategies to improve efficiencies, adopt more creative delivery methods and reduce operational costs to mitigate greater uncertainty at institutions (Africa, 2020:32). Higher education performance funding has been adopted in many countries across the globe, including the United States of America, the United Kingdom, Europe and New Zealand (Wellings et al., 2019:24). This had a direct bearing on the institutions' funding and budgeting and negatively affected operational priorities, internal funding models and the research funding landscape (AI-Youbi, 2021:122). Increasing demand for higher education and the South African Treasury's requirement to manage funds for competing public goods have negatively impacted funding for

higher education (Ayuk and Koma, 2019:176). University leadership is conscious of the urgency to reconstruct the structures, curriculum and processes of universities to compete for students, funding and global ranking in a knowledge society (Khalid et al., 2018:266).

#### **2.4.2 The impact of the fourth industrial revolution on the university sector**

The concept of the fourth industrial revolution (4IR) was coined by Klaus Schwab and introduced at the World Economic Forum. Schwab identified artificial intelligence (AI), robotics, the internet of things (IoT), autonomous vehicles, 3D printing, nanotechnology and biotechnology as some of the key drivers of 4IR (Gleason, 2018:40). 4IR has produced exciting and complex opportunities for HEIs to transform the workplace through the convergence of humans and technologies through interdisciplinary learning, research and innovation (Xing and Marwala, 2017:10). In 2006, the advent of cyber-physical systems (CPSs), coined by the US National Science Foundation, was followed up with a series of workshops on robotics and artificial intelligence (Gleason, 2018:2). “Cyber-physical systems (CPS) are physical and engineered systems whose operations are monitored, coordinated, controlled and integrated by a computing and communication core” (Rajkumar et al., 2010:731). 4IR has introduced digitalisation, which seamlessly connects machines and processes into computerised information networks, integrating processes across organisations and creating more efficient processes and systems (Xing and Marwala, 2017:11).

Academic institutions are required to develop their skills and build more agile interventions for the contemporary data environment to support organisational leaders (Church and Burke, 2017:18). Higher education institutions have an important role to play in preparing society to adapt and adjust to 4IR (Gleason, 2018:5). The level of complexity of change in organisations and the impact of those changes are both growing exponentially (Church and Burke, 2017:14). The evolution of an integrated world fostering interconnectedness and intercultural acceptance must be supported by educational interdisciplinarity and the development of globally relevant curricula (Gleason, 2018:219).

#### **2.4.3 Digitalisation in the higher education sector**

Digitalisation is disrupting business models, creating new opportunities in digital revenues and new forms of customer experiences, interaction, and access (Xing and Marwala, 2017:11). It is difficult to assess the full impact 4IR technologies will have on society, but what is certain is that HEIs respond quickly (Gleason, 2018:217). This impacts universities in two ways. The first is that universities can be beneficiaries of digitalisation and change their model of operation to offer

online products and services. Conversely, university academics and researchers can offer consulting and develop digital products for the government and the private sector. Universities are key to driving technology development, science and policy to guide the advancement and growth of society (AI-Youbi et al., 2021:37).

Digital disruption has also impacted the world of work with new and emerging skills and professions. The growing demand for enrolment in new critical skills requires the development of new university qualifications and curricula. In the modern digitalised world, the gathering of data, collecting data and feedback loops in the process are just as important as the result. Data collection processes create complete systems at higher rates and greater depths of mining relations in organisational sub-systems (Church and Burke, 2017:17). The world data of the sciences provides huge opportunities for university academics to monetise.

The transnational higher education sector is revolutionising the landscape of higher education globally by creating new educational systems (Gleason, 2018:45). The education system is dependent on efficient methods of converting tacit knowledge to explicit knowledge, which is codified in language that can be understood (Fronzizi *et al.*, 2019:5). The model of higher-level learning can be accessed through online institutes, non-profit organisations, mobile company applications like iTunes and other forms of digital podcast platforms (Buller, 2014:55). Leadership in higher education is not only about moving the organisation to catch the next big technological wave but also motivating academics to embrace the digital revolution (Buller, 2014: xii).

At the beginning of the decade, the world was introduced to massive online offered courses (MOOCs) and currently, we are seeing a major shift to short courses, co-creation platforms, and uptake for design thinking (Gleason, 2018:128). Higher education is rapidly changing with the emergence of platforms such as Singularity University, Udemy, Udacity, EdX and Coursera that offer qualifications and courses that compete with HEIs and allow self-design certification (Gleason, 2018:47).

## **2.5 Funding of higher education in selected international countries**

The funding of public higher education was studied in the United Kingdom, Australia and Nigeria. This will allow a comparison of public university funding, financial challenges, mitigation strategies and challenges with academic participation in third stream income. The United Kingdom is an exception and since 1980, it has introduced a full fee system for international students and has been a source of income generation, with Australia following suit (de Wit and Altbach,

2021:31). The South African government's university subsidised funding framework was influenced by countries such as Australia and Norway (Jacobs et al., 2019:134). Nigeria was chosen for having a large and growing demand for higher education, which is very similar to the South African public higher education system.

### **2.5.1 Funding of higher education in the United Kingdom (UK)**

The (UK) historically, has had a longer provision of higher education than Nigeria and South Africa but is still grappling with effectively funding higher education in a sustainable model (Ayuk and Koma, 2019:190). In 2004, the English government made changes to the Higher Education Act, allowing universities in the 2006 academic year to determine the cost of tuition fees. The Graduate Contribution Scheme replaced the payment of tuition fees at the point of academic registration. The government of England changed the student maintenance grants to loans, resulting in an increase in loan amounts for students from lower-income households (Bolton, 2018:12).

The 'Browne Review' recommended policy changes, shifting increased costs to graduates and increasing competition among HEI providers in the English education system (Middlehurst, 2013:278). The Browne Commission was appointed to address access, quality provision and a sustainable funding model, recommending that no student be excluded for financial reasons, no individual should pay for higher education until they are earning within a specific bracket and student loan repayments not be linked to interest rates or the amount borrowed (Ayuk and Koma, 2019:191).

The UK, between 2004 - 2013, reflected on the need to centralise higher education services and activities to realise the vision of a knowledge economy (Middlehurst, 2013:277). The European Union, in 2006, called for the renewal of European universities, citing the drive in the knowledge economy and requiring new methods for producing qualifications, autonomy, skills, funding, excellence and partnerships (Filippakou and Williams, 2014:73). The Higher Education Funding Council for England identified governance, leadership and management as priorities (Middlehurst, 2013:280). Globalisation and advances in information technology were identified as drivers, putting pressure on the United Kingdom's higher education system, creating international competition related to attracting academics, students, and research funding (Middlehurst, 2013:280).

Governments in the United Kingdom are making concerted efforts to bring about greater efficiency in higher education by modernising the higher education system (Middlehurst, 2013:278). The Higher Education Funding Council for England (HEFCE) provided funding for research, teaching, student loans and grants for student maintenance. The HEFC was replaced after March 2018 by the Office for Students, which took over the funding of teaching, which included student funding and Research England took over the funding of research at higher education institutions in England (Bolton, 2018:8). The UK Government used the Browne Commission recommendations due to the increasing demand for higher education and looked at supporting funding with the sale of older loan books for students (Ayuk and Koma, 2019:191). HEFCE funding cuts were experienced from 2011/12 to 2015/16 which were £0.8 - 0.9 billion. The new funding model instituted after this period saw lower cuts in funding due to an increase in student fee income from local and European Union students registered at English higher education institutions, and therefore funding from fees and government subsidies increased in 2016 - 2017 (Bolton, 2018:9).

Research has indicated that third stream income has a poor uptake amongst academics in relation to teaching and research, with academics expressing resistance as they feel that UK universities are not doing enough to promote third stream income (Watson and Hall, 2015:58). A key constraint identified in the uptake of third stream income is the negative attitude toward knowledge sharing by some academics in the UK (Research, 2009:6). Academics felt that the universities in the UK did not provide sufficient infrastructure, the university administration did not provide enough support and opportunities were exclusive and protected for some academics (Watson and Hall, 2015:58). Academic leadership cannot afford to ignore the concerns of academics with respect to the value of third stream income against the backdrop of the core business of the university, which is balancing teaching and learning, which may impact the institution's culture and efforts towards third stream income (Research, 2009:23). Academics felt that there was insufficient motivation from managers, they had to contend with unrealistic workloads, and there were no staff development programmes to promote entrepreneurial activities at UK universities (Watson and Hall, 2015:58)

### **2.5.2 Funding of higher education in Australia**

In 2012, the Australian Government adopted the "Bradley Review" (2008), which saw uncapped student enrolment and increased participation by historically underrepresented citizens (Hurley and Van Dyke, 2020:5). Equity groups, as defined in the equity policy, are students of indigenous origin, coming from low socio-economic households and living in remote areas (Wellings et al.,

2019: XI). Funding of higher education is seen as a responsibility of the Australian Government, with the state and territory governments having a vital role in the governance of universities and investment in research at institutions of higher learning (Hurley and Van Dyke, 2020:5). An important aspect of investment in higher education by the Australian Government is in the form of conditional loans, which would be paid back later by beneficiaries to ensure a sustainable system of funding (Hurley and Van Dyke, 2020:11).

In 2017, the Australian Government amended the conditions of demand driven funding by capping funding allocations to institutions. In 2020, increases in higher education funding were linked to population growth in the 16–84 year age group (Hurley and Van Dyke, 2020:5) and the funding of institutions became performance based with criteria evaluating graduate employment absorption, level of quality of student experience, and enrolment of students from identified equity groups (Wellings et al., 2019).

Australia has an internationally comparable higher education system that was acknowledged by the Times Higher Education World University Rankings (2019) and Academic Ranking of World Universities (2018) having six Australian universities in the best 100 and QS World University Rankings (2019) ranked seven Australian universities in the top 100 (Wellings et al., 2019:2). In 2018, the Organisation for Economic Co-operation and Development (OECD) identified Australia as the third most popular destination for tertiary education. Australian universities registered international students are responsible for generating a large growth in student revenue since 2013 (Hurley and Van Dyke, 2020:15). In the period 2008 - 2018 registered international students increased from 198 536 to 313 493 full time equivalent enrolment of students, which showed a growth of 57% (Commonwealth DET, 2019c). The international coronavirus pandemic had a severe negative impact on international students registering at Australian universities due to global restrictions on travel. It is forecast that if the travel restrictions continue between 2020 and 2023, the loss of international student revenue will be \$19 billion in comparison to 2019 international student revenue (Hurley and Van Dyke, 2020:18).

Smaller Australian universities have not been able to capitalise on the revenue increases as these institutions cater for regional and outer peri-urban areas (Hurley and Van Dyke, 2020:24). They have not been able to attract international students and benefit from the revenue as they service a larger number of the student population from the equity groups (NCSEHE, 2019). In Australia, higher education grants for teaching and learning and research have declined from 0.7% in 1989 to 0.6% in 2017 (Universities Australia, 2019). Additionally, Australia's Commonwealth Grant

Scheme (CGS) declined from 4.2% (\$11,730) per student in 1989 to \$11,240 per student in 2017 (Universities Australia, 2019).

### **2.5.3 Funding of higher education in Nigeria**

The higher education system in Nigeria is defined by the 1-6-3-3-4 education system, which is traditionally the last four years of an education system that dates back more than 89 years to the establishment of the Yaba Higher College. The system has produced an excellent stock of global professionals but has been in decline over the last 15 years due to inadequate funding (Okebukola, 2015:47). The Nigerian university system is made up of 141 universities, of which 80 are publicly funded institutions and 61 are private universities. with the National Universities Commission (NUC) responsible for the funding mechanism of federal universities (Okebukola, 2015:47).

Since 1948 until the period of flourishing oil prices during the 1970s, Nigerian universities accessed funding from the government through grants and tuition. In the early 1970s, because of the boom in the oil economy, tuition fees were further subsidised by the Nigerian government with the annulment of tuition costs and a reduction in university fees. However, with the changing fortunes in the oil sector in the 1980s, the government was forced to cut back on subsidies (Okebukola, 2015:48). In the 1980s and 1990s, the Structural Adjustment Programme (SAP), an interventionist mechanism, was required in Nigeria to deal with the impact on university funding because of weakening exchange rates, high inflation and low university purchasing power related to foreign library resources and equipment (Okebukola, 2015:48). The Tertiary Education Tax Fund (TET Fund), established by Act No 7 of 1993 to improve the quality of education in Nigeria, imposes a 2% tax on the profits of registered companies in Nigeria. (Faborode and Edigheji, 2016:63).

Nigerian public universities are being viewed as institutions that are sowing division instead of promoting efforts towards national unity and responsible citizenship. The Nigerian university processes are biased, especially the recruitment of academic and support staff, and the recruitment of students is influenced by local political interests (Faborode and Edigheji, 2016:30). The challenge of escalating operational costs at universities requires prudent use of resources, which requires university management to be mindful of institutional requirements (Mushemeza, 2016:243). This prompted the call to reintroduce increased tuition fees at public higher education institutions, which was met with strong resistance from students (Ayuk and Koma, 2019:190). The situation is forcing Nigerian higher education authorities to prioritise income generation as an alternative source of income (Famade et al., 2015:88).

Nigeria is dependent on the university sector to address the challenges facing the country. It is imperative that the university sector help foster national development and that they build strong ties with the private sector to achieve the ideals of the country and cater for the exponential increase in demand for tertiary education (Faborode and Edigheji, 2016:45). It is imperative that new and innovative methods of funding Nigerian higher education are established to ensure the survival of the higher education sector in Nigeria (Famade et al., 2015:83). Public universities in Nigeria are encouraging commercial activities at universities, attracting international donor funding, increasing research activity, providing consulting services and demonstrating great success in science and technology. (Arikewuyo 2001 cited in Famade et al., 2015:85). It has been suggested that Nigerian academics form communities of practice to encourage increased commercialisation of research (Abereijo, 2019:5). Consultancy services and technical support services have been identified as important in supporting the higher education system in Nigeria to attain internationally comparative goals (Isa and Yusoff, 2015:1). Third stream income in Nigeria warrants an entrepreneurial mindset among individual academics and institution wide awareness to recognise entrepreneurial opportunities (Abereijo, 2019:2).

## **2.6 Funding of higher education in South Africa**

### **2.6.1 Investigating the landscape of the higher education sector in South Africa**

In approaching this study, the researcher draws on the South African definition of higher education institutions. The post-schooling system in South Africa consists of education and training providers that fall under the Department of Higher Education and Training (DHET) comprising universities, public technical and vocational education and training (TVET) colleges, public adult learning centres, private post-school institutions, Sector Education and Training Authorities (SETAs), South African Qualifications Authority (SAQA) and the Quality Councils (Education and Training, 2013:xi). The National Development Plan (NDP) prescribes that universities develop high-level skills for the economy, produce new knowledge, enable social development and social justice, and promote democracy (Education and Training, 2013:27). Universities in South Africa are gazetted under Higher Education Act No. 101 of 1997, and report to the statutory body, CHE (Training, 2020/21:8).

The South African university system is differentiated, meaning that some have a teaching bias (traditional universities), others have a research bias (research-intensive), and some have a mixed agenda (comprehensive institutions) (USAf, 2018:3). Research-intensive universities are

proportionately more involved in commercialisation, the creation of spinoffs, licensing and problem-solving activities, whereas teaching-led institutions are involved in less formal entrepreneurial engagements (Abreu et al., 2016:607). Entrepreneurial universities allow staff and students to engage in entrepreneurship, innovation and creativity, which creates commercial value (Wadhvani et al., 2017:3). In defining their organisational ethos, universities have broadened their economic, scientific, and social impacts in addition to their production of public good (AI-Youbi et al., 2021:37).

Universities South Africa (USAf) see universities as producing public good, new knowledge and research that translates into new technologies, commercialisation, innovation, and social development for the benefit of the nation (USAf, 2018:1). In 2019, South African public universities appointed 19 901 permanent teaching or research staff, which contributed to expenditure (Education, 2021:31). In 2020, the South African DHET provided the University Capacity Development Grant funds, of which 40% was earmarked for the promotion of student centred initiatives, 47% for staff development, 8,9% for curriculum development and 5% for programme management (Education, 2021:34). Universities play a critical economic role in society and all modern economies are reliant on universities to produce the relevant economic skills to drive society (Archer, 2017:2).

The South African public higher education sector is made up of 26 universities, including eleven general academic universities, six universities of technology (UOTs), a total of nine comprehensive universities and the National Institute of Higher Education (Training, 2020:25). Higher education institutions (HEIs) in South Africa, comprising universities and universities of technology were allocated R36 896 878 million in the 2018/19 financial year (Training, 2020:169).

The South African Department of Higher Education and Training's strategic plan has been informed by the following government documents: the National Development Plan: Vision 2030, the White Paper for Post-School Education and Training, the Medium-Term Strategic Framework: 2019–2024, and the National Plan for Post-School Education and Training. It is further informed by the international imperatives of the United Nations (Sustainable Development Goals) and Agenda 2063 of the African Union (Africa, 2020:14). It is imperative that South African policymakers entrenched in nationalist thinking learn from global precedents. No examples of a linear roadmap to policy development in developing countries are available for South Africa to mirror. In a world of volatility, uncertainty, complexity and ambiguity, universities can provide

empirical evidence that can contribute to the construction of sound institutions that can be beacons of moral construct and win the trust of citizens.

The higher education system in South Africa must initiate transformation to drive the changes required by the country to build on the values and practices of democracy. The education system should build a learning society to meet the objectives of reconstruction and development. (South Africa, Department of Education, 1997:2). South African higher education challenges include access to higher education, poverty, reduction in state funding for higher education, supply of next-generation academics and the quality of higher education (Gleason, 2018:179).

The South African White Paper on Higher Education, published in 1997, outlines the roles and responsibilities of South African universities, which include “intellectual development” required to address social inequalities and promote societal development. It further informs the need to develop students who are socially and critically aware to engage in the world of work and knowledge production (Swartz et al., 2019:571). The White Paper (1997) developed a vision and principles to transform higher education into a single higher education system (Education and Training, 2014:27). South Africa requires the university sector to strengthen the country's science and innovation capabilities and the humanities to find solutions to the challenges and address reform in society (Commission, 2013:262).

Since 1997, the university sector has embraced an interventionist approach to operational management, which included the establishment of a Transformational Oversight Committee to advise the Minister on policies and strategies to foster transformation within universities (Education and Training, 2014:28). The South African education authorities have implemented a targeted approach to funding public universities to support institutional infrastructure, improvements to undergraduate curricula, academic staff development, implementation of teaching and learning technologies, mentorship programmes, counselling, improvement to infrastructure and financial support for students (Education and Training, 2014:32).

DHET is looking to build the capacity of lecturing staff at universities with the vision of increasing academic expertise. The plan is to improve academics in the areas of pedagogy, curriculum development and research capacity. There is a strong drive to improve digital pedagogy and address the staffing demographics at universities, ensuring greater participation by African and female academics, especially at senior levels (Africa, 2020:43). The proportion of black academics and research staff at South African public universities increased from 42,8% in 2010 to 56,7% in

2019 (Africa, 2020:26). DHET has provided sufficient funding for programmes such as Staffing South Africa's Universities Framework (SSAUF) to enable the capacity building of mainly African academics; permanently employed black staff in public universities increased from 42.8% in 2010 to 56.7% in 2019 (Africa, 2020:26). The New Generation of Academics Programme (nGap) is an initiative of SSAUF that is showing success; to date 80% African, 11% Coloured, 6% Indian and 2% White academics are in the programme (Training, 2020:28). In 2020/21 the nGAP programme, in its Phase 7, saw the allocation of 100 additional posts to universities, bringing the number of academics added to universities from the programme to 563 (Education, 2021:57).

Increasing the number of inexperienced academics and students who are ill prepared for university education can create a paradoxical situation. more so at research-intensive universities. This could also create a context of disillusionment for existing academics who subscribe to a particular work environment that is different. This could dilute the international standing of South African research and credibility and affect the entrance requirements of South African students' acceptance to internationally prestigious universities (Archer, 2017:1). This creates a dilemma of entrepreneurial expectations in traditional university academic jobs: are academics willing to use entrepreneurial skills and are they encouraged to build entrepreneurial skills in complex traditional university environments (Birds, 2014:64).

### **2.6.2 Investigating the development of higher education in South Africa**

The South African government is supporting universities to engage in partnerships to ensure student funding initiatives, inter-governmental arrangements, cost recovery interventions from South African Revenue Services (SARS), scholarships, and scarce skills support (Cele and Goodman, 2016:118). The Ministry of Higher Education in South Africa has created policies connecting other spheres of government to support universities in commercial and economic ventures. The White Paper outlines the importance of improved intergovernmental coordination to promote cooperation, especially between DHET and the Department of Science and Technology (DST) with regard to research funding and development (Science and Technology, 2019:30).

The South African government prioritised inter departmental policy integration and the facilitation of cooperation and commitment between departments, including the DST, DHET, the Department of Trade and Industry (DTI) and the Department of Labour (DoL) to advance the internationalisation strategy and activities in higher education. (Internationalisation Policy, 2017:23). The National Intellectual Property Management Office (NIPMO) developed an Act to establish the creation of Technology Transfer Offices (TTO) at universities to support the

protection and commercialisation of university research. The decentralisation of TTOs, managerial and leadership models for commercialisation should consider the improvement and extension of academic entrepreneurship (Abreu et al., 2016:23). The Department of Science and Technology developed a Ten-Year Innovation Programme to support the development of university held patents and other research agencies to increase commercialisation, which can feed into the New Growth Path and Industrial Policy Action Plan to support job creation (Education and Training, 2014:34).

South African universities are seeking solutions to maintain financial sustainability in the higher education sector to ensure the development of infrastructure and redress economic and social disparities that still exist in the system (Africa, 2020:27). South African universities, serving mainly black South African students, are taking time to extract themselves from the inequitable past (Africa, 2020:32). DHET has identified that, with the rapid growth of student numbers and underfunding, third stream income is a valuable method to support the shortfall at underfunded South African universities (Heher, 2017:141).

Universities have the option of third stream income activities, which include developing entrepreneurial strategies to increase institutional financial capital (Petrov et al., 2016:26). This agenda is perpetuated by the drive to increase third stream income generation by attracting donations and research funding and introducing income generating online academic offerings to private companies and grant applications to ensure the sustainability of the university (Swartz et al., 2019:580). Third stream income received by more affluent universities in South Africa is much higher than that received by historically disadvantaged institutions and this is attributed to research quality, affluent alumni and the location of the institutions in metropolitan areas (Heher, 2017:291). The challenge at most previously disadvantaged South African universities is the lack of capacity to generate third stream income (Ayuk, 2019:178). Although South African universities attempt to be innovative in sourcing third stream income, they are failing in comparison to prominent international universities and fare poorly with innovation as a source of income (Burns, 2021). It was further learned that the lack of social capital, limiting internal university policies and trust, is a problem for efficient university commercialisation (Bağ, 2016:110). Professor Gerald Ouma from the University of Pretoria affirms that finding creative ways to attract and manage investment and fundraising is a serious call (Walker, 2021). In a predictive scenario conducted by DHET with the assumption that student enrolment will grow at 3,1% per annum between 2013 and 2030 to achieve the DHET goal of 1,6 million registered

students at universities, third stream income is required to increase by 5% year on year, which has not been previously attained to sustain the system (Cloete, 2016:17).

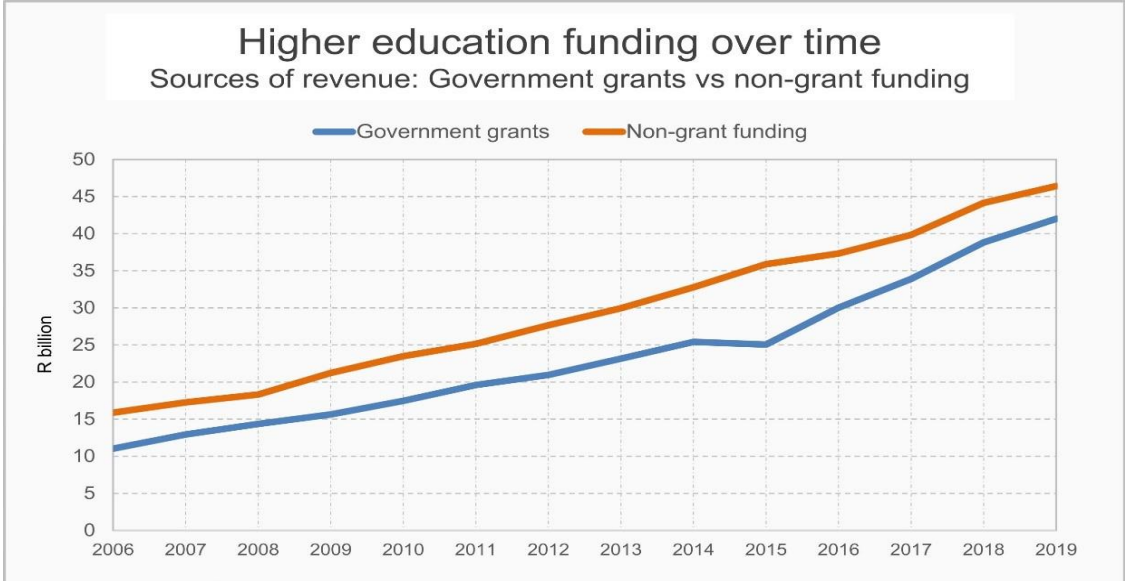


Figure 2. 2 : Funding of South African Higher Education

(Source: Financial Statistics of higher education institutions, 2019)

It is evident from figure 2.2 above that non-government grants in higher education in South Africa were higher over the period 2006 to 2019. Since 2015, there was a steep rise in government grants, and this can be attributed to the #FeesMustFall campaign.

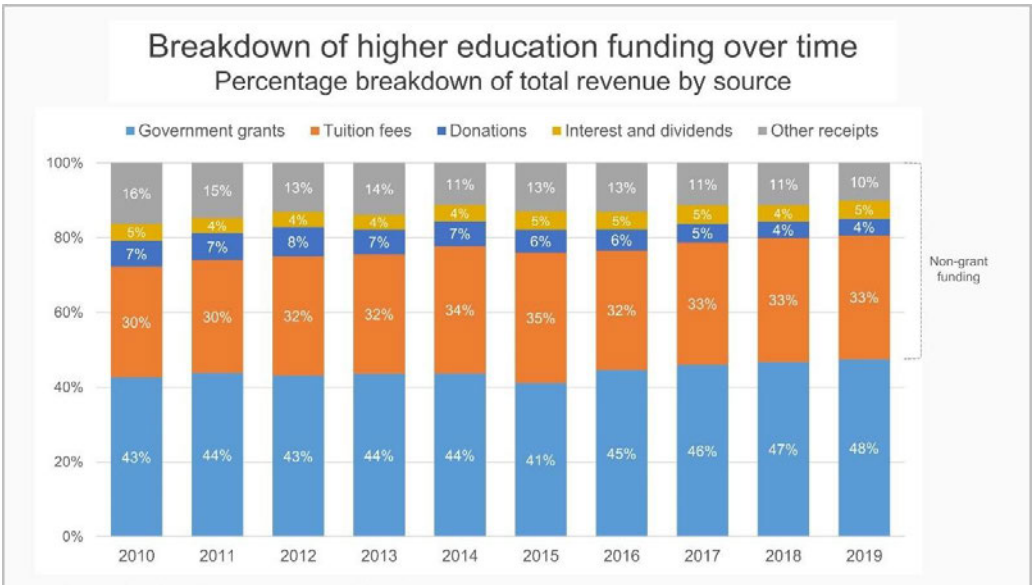
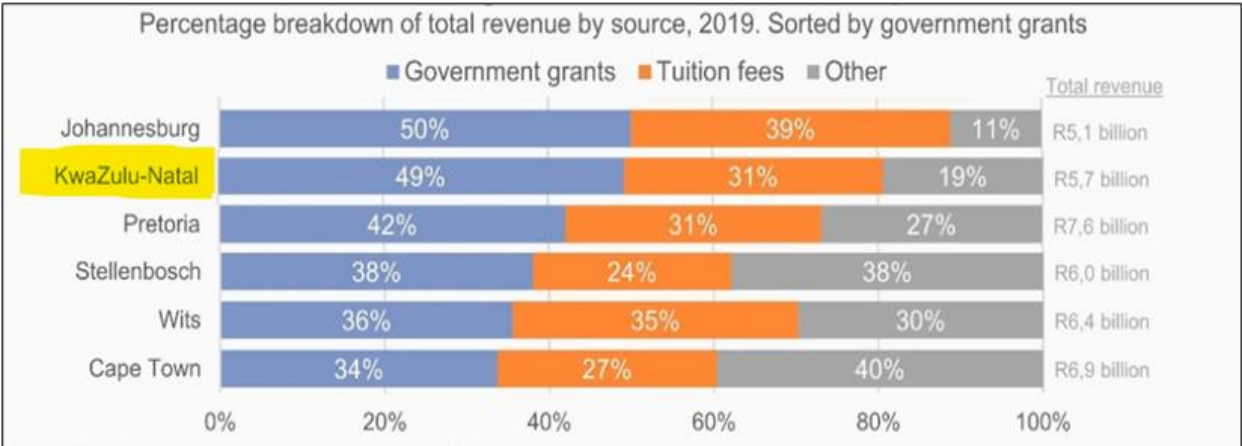


Figure 2. 3: Percentage breakdown of revenue of South African Higher Education

(Source: Financial Statistics of higher education institutions, 2019)

In figure 2.3 above shows the amount of revenue the 20 public universities and six universities of technology received between 2010 and 2019 in relation to tuition fees, donations, interest and dividends, and other sources of funding. It can be deduced that third stream income has been declining relatively over the period as it would have been calculated under other funding, which was 16% in 2010 and reduced to 10% in 2019. The effects of the pressure from the #FeesMustFall campaign can also be seen with an increase from 41% in 2015 to 48% in 2019.



**Figure 2. 4: Percentage breakdown of government grants per university**

(Source: Financial Statistics of higher education institutions, 2019)

The above diagram shows that UKZN and University of Johannesburg receive the highest amount of government grants 49% and 50 % respectively which is far higher than the other universities represented in the figure. In view of government reducing grants these institutions would need to find alternate sources of funding. The diagram also shows that UKZN and the University of Johannesburg attract the lowest amounts of other funding.

**2.7 Developing entrepreneurialism in university academics**

Since the nineteenth century, academics pursuing entrepreneurial opportunities have applied knowledge to positively impact markets, governments and societal practices (Wadhvani et al., 2017: 180). Entrepreneurial competencies are defined by understanding personal traits based on intrinsic entrepreneurial characteristics and knowledge, which is based on information, education and an understanding of conducting commercial activities (Rezaei Zadeh et al., 2017:38). In drawing a distinction, academic entrepreneurs engage in more formal entrepreneurial engagements such as technology commercialisation, and entrepreneurial academics combine their teaching and research to partner in less formal entrepreneurial ventures (Miller et al., 2018:7). When intellectual

property is created at a university through the commercialisation of technology, it is classified as a ‘hard’ type of academic entrepreneurship, while the second type of academic entrepreneurship deriving financial reward from consultancy, sponsored research and cooperative promotion, is considered a “soft” type of academic entrepreneurship (Bağ, 2016:109). Commercial entrepreneurs differ from academic entrepreneurs in that they view proprietary knowledge as a means of pursuing profits, as opposed to academic entrepreneurs, who value publishing and sharing information with the academic community and using intellectual knowledge for public benefit (Burkholder and Hulsink, 2022:5).

A similarity in personality traits exists between academic entrepreneurs and academic researchers; this correlation can be used as motivation to convert academic researchers to academic entrepreneurs (Bağ, 2016:109). Historically, academic entrepreneurship has been the catalyst of institutional change, resulting in new fields of research, a shift in the scope of research disciplines, and a change in relationships between research institutions, universities, and the state (Wadhvani et al., 2017:186). Academic entrepreneurs are focused on applying their research knowledge for the purpose of commercialisation through licensing, selling of technologies and developing technological solutions (Miranda et al., 2017:113).

Modern universities support academic entrepreneurship by encouraging the development of new technologies, providing infrastructure, intellectual growth for commercialisation, quality of knowledge, research infrastructure, legitimising academic entrepreneurship, and access to funding (Jakubiec and Kurowska-Pysz, 2013:59). A critical aspect is the financing of scientific and commercial integration to provide buildings, equipment, human resources, and scientific research funding (Wadhvani et al., 2017:179). Many other forms of academic entrepreneurship can be exploited including informal intellectual property (IP) (Abreu et al., 2016:8). Academic entrepreneurs are focused on applying their research knowledge for the purpose of commercialisation through licensing, selling technologies and developing technological solutions (Miranda et al., 2017:113). A similarity in personality traits exists between academic entrepreneurs and academic researchers, this correlation can be used as a motivation to convert academic researchers to academic entrepreneurs (Bağ, 2016:109).

Academic entrepreneurship can be defined as broader than just technology exploitation; it can be extended to “academic based entrepreneurship”, which includes all entrepreneurial activities resulting in financial rewards created by academics at a university (Bağ, 2016:45). The argument that academic entrepreneurship is related to the production of knowledge is not tantamount to

intellectual activity alone but extends to the practicality of the strategic organisation of resources. A critical aspect is the financing of scientific and commercial integration to provide buildings, equipment, human resources, and scientific research funding (Wadhvani et al., 2017:179).

Research exploration may create new, original and complex paths of research that require cross-disciplinary research teams. Academics at research universities appreciated cross-institutional connections as they presented new perspectives (Gonzales and Terosky, 2018:1388). This type of academic entrepreneurship creates unique breakthroughs that result in institutional change (Wadhvani et al., 2017:188). Academic entrepreneurship has been shaped by new academic subfields, the evolution of the state and industry and the ambitions of multi-disciplinary research (Wadhvani et al., 2017:190). The concept of academic entrepreneurship has evolved; each university must pursue its own entrepreneurial strengths and opportunities. It is also important for universities to develop new tools to assess academic entrepreneurship, as both universities and academic entrepreneurial opportunities are evolving (Abreu et al., 2016:8).

The broader form of academic entrepreneurialism includes commercial research, collaboration, consultancy, providing ad hoc advice and professional networking (Bağ, 2016:108). A wider definition of academic entrepreneurship considers non-commercial activities that influenced academia to transform and recognises the complexities of evolving relationships between governments, academic institutions, and the economy (Wadhvani et al., 2017:193). Non-traditional academic entrepreneurship may be more prevalent in academic fields such as the humanities and social sciences, considering technology transfer is not the norm in research (Abreu, Grinevich, 2014:422). Teaching can also form part of academic entrepreneurialism, where programmes are offered by the institution to corporate and government clients for commercial benefit. This allows academics to keep up to date with professional development and trends, ensure curricula remain relevant to industry, generate third stream income for universities, and access government funding for commercial research and consultancy (Abreu et al., 2016:7). Academic entrepreneurs deal with practical business concerns and make decisions; an example is marketing, which does not only require a presentation but also requires influencing and lobbying stakeholders (Birds, 2014:65).

University management promotes academic entrepreneurship under certain conditions, but at times the university may be disconnected from the mission of supporting entrepreneurship (Birds, 2014:71). The functionality of business in higher education relies on existing capacity, markets and regeneration created through changes in the external environment based on risk. The task of

entrepreneurial managers is to connect participants to engage with different experts (Birds, 2014:63). Entrepreneurs are prepared to engage in risk and focus on a specific activity to provide financial reward using an efficient method. Scientists venture into unknown areas and focus on narrow studies with no surety of commercial success. It can be concluded that both groups have different motivators, but scientists who pursue research for the purpose of patenting and commercialising it, share common characteristics with entrepreneurs (Bağ, 2016:109). Academic entrepreneurs require a combination of encouragement and tangible resources to be successful. As part of the framework to understand academic entrepreneurial activity in higher education, the concept of the “partial entrepreneur” has emerged since entrepreneurial academics must divide their time between being entrepreneurs and discharging traditional academic duties (Birds, 2014:71). One of the challenges in creating academic entrepreneurs is that they are highly specialised, and it is less complicated to put together a team of experts at a university than expanding the entrepreneurial capabilities of specialists (Cantu-Ortiz et al., 2017:548).

Academic intrapreneurship is explained as the independent participation of scientists, extending their scope of work beyond teaching and research to the exploitation of knowledge commercialisation, while remaining in an academic institution (Burkholder and Hulsink, 2022:1). Intrapreneurial academics can add value to universities by securing contracts with industry, identifying clients that can benefit from research outputs and inventions and through creating spin-offs (Bani-Mustafa *et al.*, 2021:3). Specialisation in the academic field creates a proximal relationship to the use of applied knowledge to benefit society and the public and private sectors (Wadhvani et al., 2017:187). Academic entrepreneurs across disciplines are more successful at building institutional commercial projects due to their ability to converse with authority across sectors and be open minded to create visionary futures (Wadhvani et al., 2017:191). Symbiotic academic support is a useful strategy to employ to overcome traditional barriers required in the execution of teaching and research (De Silva, 2016:219).

Self-efficacy is an important foundation for facilitating the relationship between self-knowledge (human capital) and acquired knowledge in the decision for individuals to venture into entrepreneurial activities. Self-efficacy is the inherent confidence in one’s own skills and capability to confront a variety of circumstances and be competent in performing the required actions (Bandura, 1994). Individuals in the same environment as business minded people develop a greater degree of certainty and confidence to participate in entrepreneurial activities and be successful (Bandura, 1978; Indrawati et al., 2015).

## **2.8 Lessons learnt from global entrepreneurial higher education**

Burton Clark coined the term “entrepreneurial university” in 1998, which classified higher education institutions that engage in global economic activities by being innovative, generating knowledge and using technology (Wadhvani et al., 2017:3). “Entrepreneurial” is characteristic of a social system understood to encompass the entire university involved in “enterprise” defined by commercial effort and energy applied to innovate and transform the institution (Clark, 1998:3). Since the advent of university technology transfer offices, academic entrepreneurship favoured research driven third stream income, limited to university-industry collaborations and perpetuated by scientists’ commercialisation of research (Siegel, 2015:7). Research has shown that the identification of entrepreneurial opportunity, allocation of resources, academic entrepreneurialism and processes have contributed to the success of entrepreneurial universities just as much as the integration of science and technology research at universities (Wadhvani et al., 2017:178).

Universities are seen as living systems that are required to be in sync with society, adaptive and have the ability to grow in response to changes in the environment (Yaghoubi et al., 2019:1). Universities develop policies and guidelines to promote and manage academic entrepreneurial activities and designate a directorate to employ a process to create and manage entrepreneurial endeavours. Exploiting the intellectual capacity of academics presents challenges that require the sincere attention of institutional academic leadership. Academic leadership should consider using informal methods to promote entrepreneurial collaboration such as sponsored events, learning forums and disseminating results from surveys (Gonzales and Terosky, 2018:1388). The promotion of academic entrepreneurship among university academics requires a strategy, an implementation plan at the institutional level and a policy with monitoring and evaluation guidelines to manage the process successfully. This would also expand the enquiry to develop a more efficient system by conducting research into organisational behaviour, resource management, ethics, social networks and social responsibility in academic entrepreneurship. Investigation of these factors would promote group thinking amongst stakeholders from a psychological perspective (Abreu et al., 2016:28).

Research is a viable opportunity to monetise the intellectual property of academics through licensing, patenting, and commercialising of research, but it is fraught with high barriers to entry and profitability. This requires the development and support of a high calibre of academic researchers and a proficient technology transfer office that can identify market relevant

technologies, providing technical expertise in developing entrepreneurial opportunities, having international networks and the ability to market technologies (AI-Youbi et al., 2021:31).

At the Indonesian University of Terbuka, academic entrepreneurialism was attributed to networking, income generation initiatives, partnerships, open management and planning, and the motivator was limited government funding (Wadhvani et al., 2017:5). A Mexican university has proposed a justifiable model to increase high-tech academic entrepreneurs through commercialisation by expanding the size and quality of faculties; increasing financial support for patent protection; improving university networks; promoting multidisciplinary research teams and increasing university incentives in favour of commercialisation in relation to publications (Cantu-Ortiz et al., 2017:542).

Universities in both the developed and developing worlds are establishing innovation clusters. In the United States, the “Stanford University – University of California, Berkeley” established Silicon Valley, “Harvard University – Massachusetts Institute of Technology” set up Boston Route 128 and in the United Kingdom the golden triangle is linked to the “University of Cambridge–University of Oxford–University College London” (Bank, 2018:80) The phenomenon of universities set up as innovation parks has also extended to developing nations. The University of Malaysia has been promoting interdisciplinary research in sustainable science and biotechnology in recent years. Clinical Medicine Plus X is renowned as a research hub for big data in health and research in precision medicine and intelligent medicine, which can be attributed to the efforts of Peking University (Bank, 2018:80). India is also driving the start-up culture through research parks fostering innovation at the Indian Institute of Technology. The Mexican Research and Technology Park is a hub of more than 30 diversified scientific research centres (Mundial, 2019:80).

Successful countries have been able to grow due to their ability to innovate by accomplishing goals on their own and investing in publicly funded research and development. The space, defence and aerospace programmes accomplished by the United States of America; the integrated supply chains; just-in-time manufacturing systems; and quality management systems developed by Japan are examples of countries innovating and advancing. The high-tech manufacturing systems were developed and employed by Singapore and China (Commission, 2013:72). There is sufficient evidence from regions like Western Europe that university research, learning and policy formulation have been instrumental in the creation of sustainable institutions that supported the successful performance of the country and helped stabilise the region. Countries have emerged from local turbulence created by ethnic rivalry, nationalism and religious intolerance. Some of the

most notable resurgences have been the civil wars in Europe, the Balkan uprising and the uprising of the Arabs, and the Middle Eastern and African refugee crises (Archer, 2017:1). Higher education systems globally have their own peculiar pressures in bringing about transformation, but these have been attributed to failures in economic and political structures in the Soviet Union, Eastern Europe and South Africa brought about by the political revolution and economic growth in India and China (Heller and Callender, 2016:xvii).

The triple helix model positions universities within an innovation system along with government and business (Fronzizi *et al.*, 2019). The Indonesian Ministry of Research, Technology and Higher Education subscribes to the triple helix model for developing entrepreneurial individuals in agriculture and the technology environment (Wadhvani *et al.*, 2017:3). In this context, entrepreneurial universities function within a knowledge infrastructure where they innovate, create knowledge, technology transfer and commercialism. Guerrero and Erban (2014 cited in Yaghoubi *et al.*, 2019:2) state that entrepreneurial universities form the underpinning of a knowledge economy that encourages academics and students to create and share new knowledge to benefit the economy (Yaghoubi *et al.*, 2019:2). The triple, quadruple and quintuple helix models are highly interdependent and integrated, unpacking the role of universities in innovation and modern sustainable development (Fronzizi *et al.*, 2019:2).

## 2.9 Summary

The chapter explored the transformation taking place in the higher education system, spurred by the fourth industrial revolution, and focused on how digitalisation and globalisation are impacting the sector from a financial perspective (Bank, 2018:71). The chapter isolated developments in the university sector, which is the area of interest of the study, with a particular focus on third stream income generation. The chapter looked at the funding of higher education in Australia, the United Kingdom and Nigeria to compare how South Africa fares in terms of funding of public universities and third stream income. The countries were chosen because the South African education system fell under British imperial law for many years and the South Africa funding system was influenced by the Australian system of higher education. Nigeria was chosen as the African country of comparison because it has a large modern economy and is richly endowed with natural resources very similar to those of South Africa. A more in-depth investigation was conducted into the South African higher education system to establish the transformation agenda and alternative streams of income. The analysis was also conducted to show the human capital complexities that exist in the South African higher education system and how this would influence third stream income

generation. The chapter then introduced the operations of entrepreneurial universities. In building entrepreneurial universities, it is important to understand academic entrepreneurialism and what forms of academic entrepreneurialism exist globally. The researcher felt it was imperative to understand universities as learning organisations with respect to third stream income generation and the value of transformation leadership at universities in facilitating third stream income generation. The next chapter unpacks the theories of emotional intelligence and social capital. It pays particular attention to the Goleman, Boyatzis, and McKee's four-dimensional theory of emotional intelligence (Goleman et al., 2002:47) and the three-dimensional theory of social capital (Nahapiet and Ghoshal, 1998).

## CHAPTER 3: THEORIES OF SOCIAL CAPITAL AND EMOTIONAL INTELLIGENCE

### 3.1 Introduction

The previous chapter looked at transformation in the higher education sector and the impact it has on HEIs. Universities are learning organisations promoting lifelong learning but also adopting a culture of knowledge management, embracing change, and acknowledging feedback from stakeholders (Maric, 2013:224). UKZN was the site for this study and theoretical models were used to conduct a study of how emotional intelligence in academics impacted third stream income generation. This chapter begins with the importance of using theoretical models based on validated literature and assumptions to conduct research in the field. This chapter is divided into two main parts, with the first focusing on social capital and the second on emotional intelligence. The study is working towards increasing the propensity of social capital to increase sharing of information networks to help promote increased participation in third stream income. Social capital refers to the outcomes of human social engagement and connectedness in beneficial relationships with individuals and groups (Tzanakis, 2013:2). The concept of social capital is introduced, providing a short historical overview of its origins. A few of the prominent ideologies of social capital are discussed, providing perspectives and differentials among the theorists. An explanation is then provided for the choice of the three dimensional theory of social capital (Nahapiet and Ghoshal, 1998), followed by an explanation of the theory and an assessment of challenges with the theory.

*Table 3. 1: Definitions of social capital*

Theorist	Definition
Pierre Bourdieu	Social capital theory is based on valuable network relationships, that enable social interactions, giving group members collectively owned capital, allowing access to the benefits thereof (Bourdieu, 1986b).
Robert Putnam	Putman defines social capital as the amount of trust that exists in a network as its main value and aggregates social capital from small groups to large scale societies (Tzanakis, 2013:6).

Theorist	Definition
James Coleman	In a world view that is rational, each participant in a group works towards their own wellbeing, supported by the common resources that they have control over (James, 1988:S95).
Nahapiet & Ghoshal	Social capital is the total of actual and potential resources found in individuals or groups obtained from a network of relationships (Nahapiet and Ghoshal, 1998:248).

Emotional intelligence contributes to social intelligence, which “improves one’s ability to analyse and synthesise emotions into information to manage social engagement” (Huvila, 2014:3). A discerning factor about emotional intelligence is that it necessitates collective skill in the affective and cognitive domains within each ability (Goleman, 2001:1). The concept of emotional intelligence proposed by a few prominent theorists is discussed, followed by a short overview of the evolution of emotional intelligence. Throughout history, life has been consumed by requirements of not only mental and physical abilities but also social and emotional capabilities (Lubbadeh, 2020:39). A few seminal theories and theorists are introduced and discussed. Goleman, Boyatzis, and McKee’s four dimensional theory of emotional intelligence (Goleman et al., 2002:47) is introduced and the constructs from the model are described; and the model is then extrapolated to explain how the four-dimensional theory of emotional intelligence (Goleman et al., 2002) is interpreted from a leadership perspective. The chapter then explores the benefits and challenges associated with the theory of emotional intelligence, concluding with a summary of salient findings related to emotional intelligence and social capital. In 1990, Peter Salovey and John Mayer created and published the seminal work on the three dominant models of emotional intelligence, Reuven Bar-On and Goleman, Boyatzis and McKee presented their best work in the book *Primal Leadership*.

*Table 3. 2: Definitions of emotional intelligence*

Theorist	Definition
Bar On	“According to this model, emotional-social intelligence is a cross section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands” (Bar-On, 2006:3)
Peter Salovey and John Mayer	“The scope of emotional intelligence includes the verbal and nonverbal appraisal and expression of emotion, the regulation of emotion in the self and others, and the utilization of emotional content in problem solving” (Mayer, 1993:439).
Goleman, Boyatzis, and McKee (2002)	Building emotional intelligence requires an underlying motivation born of sincere desire; concerted effort must occur in an environment where the practice of the skills takes precedence over cognitive learning of information. This approach produces sustained learning that is less likely to be forgotten than training that takes place at a traditional workshop or seminar. (Yunker, 2002:78).

### **3.2 Theoretical frameworks**

Theoretical frameworks are proven theories that have been formulated and tested by other experts in the field. They are theoretical coat hangers, which allow researchers to base the principles of their proposed research on them (Kivunja, 2018:46). Theoretical frameworks are a wide range of formal and substantive theories that include basic common and proven assumptions of general concepts that have been tested by previous theories, providing descriptions and explanations of key concepts (Lawrence Neuman, 2014:85). They are workable and logical formats that have been tested multiple times, affirming their validity and reliability. Theoretical frameworks allow researchers to test the same or similar research questions, collect and analyse data, interpret

findings, provide discussions and make recommendations and conclusions that were previously used to support the plausibility of the theoretical framework (Kivunja, 2018:46).

Developing a theoretical approach to exploring how emotional intelligence and social capital impact academics and contribute to third stream income generation. Individuals exist in social systems with the underlying commonality of expectations and obligations, which are enshrined in a normative structure responsible for regulating human interactions that is larger than the sum of their individual contributions. Commitment is created and maintained when individuals feel a strong sense of belonging and are willing to coexist and contribute to the larger society (Edwards, Franklin and Holland, 2009:96).

### **3.3 Developing an understanding of social capital theory**

Humans are dependent on economic life for their existence, growth, development, sustainability and prosperity. The concept of resources is the central element of economics, birthing all economic activities. Resources are derived from the factors of production, namely land, labour, capital, and entrepreneurship. Capital is classified as a return on the investment of resources once it is introduced into the economy in the search for profits. Capital is resources twice processed first, once they are produced and changed as value, and second, once they are offered to the market for a profit, which requires time and effort (Lin, 2001:3). Karl Marx developed the concept of capital in 1849 and described how capital emerges from social relations between the bourgeoisie and the working class in the production and exchange of commodities, which produce surplus value resulting in future profits (Lin, 2008 :28). Capital is associated with the production, exchange, processes and creation of surplus value; it is inherently a social notion captured in a cyclical process. The term “capital” originally reflected the accumulation of money that is invested to generate profit in the future. The idea of physical capital was further introduced to explain the role of machines and fixed property in the production of economic activity. It was only in the 1960s that the concept of capital was extended to include people and their capabilities (Kilpatrick, 2003:12).

Emile Durkheim, who is widely recognised as the founder of sociology as we understand it today, was interested in how people create social connections and how this creates a tapestry of networks in society. His thoughts were in contrast to the "mechanical solidarity" of pre-modern societies, based on obedience to authority, reinforced by social conventions, and influenced by status and routines (Kilpatrick, 2003:11). Social capital can be defined as the value that exists in social

networks and creates bonds and bridges connections with normative values, reciprocity, and diversity, adding synergistic value to the group or network (Dekker and Uslaner, 2001). Social capital places emphasis on the importance of network relationships to achieve organisational goals and objectives through the group formation of structure, content and order in the evolution of the social network.

Social capital is made up of three main ingredients: resources embedded in social structures, access to social resources by individuals, and the potential to mobilise social resources in purposive actions (Lin, 2008:35). Social capital can be embedded in the personal power of an individual based on position, standing, knowledge, class and other factors related to an individual's identity and persona. This explanation concretises the idea that social capital is acknowledged by scholars and academics as an economic contributor and potentially also has surplus value at times.

Defined in financial terms, social capital is the value that lies within social relations and networks that enable economic capital to promote economic progress in an organisation. Social capital is the intrinsic value created when individuals bring goodwill to a group, creating synergistic value through their expertise, personality networks and other valuable benefits offered that originate in the structure and content of social relations (Adler and Kwon, 2002:23). Networked connections are institutionalised for a specific purpose, which can be translated into economic value under specific conditions in the form of benevolence (Bourdieu, 1986:243). Some of the seminal pioneers in the social sciences have argued that social capital is a tacit commodity that has latent, constructive and residual value to bring objectives to fruition. Internal social capital contributes to the long-term performance culture and institutional learning of the organisation (Shi-Huei Ho and Yao-Ping Peng, 2016:1).

Social capital is the collective resources connected to the ownership of a reliable network of established relationships that have mutual association and acknowledgement, providing credits to members of the association (Bourdieu, 1986:21). Theories of social capital investigate the processes of social change and the deconstruction of what exists in the social context that impacts change, seeking to explain factors that enable social responsiveness and the interaction of the actors in the system, considering their contributions to social cohesion and economic growth (Edwards, Franklin and Holland, 2009:2). Social capital is a broad concept that can apply to situations on a macro scale relating to government policies, international relations, society, communities, and individuals. It is felt that just being connected is a resource as it takes care of human socialisation. The connectedness can also provide assistance with educational

advancement, economic progress and improvements in health and security, which are all attributed to social capital (Kilpatrick, 2003:62).

Social capital includes social networks, collaboration, norms, values, trust, reciprocity, rewards, and approvals. The focus may differ from theorists, but what is important is that they all acknowledge the importance of social capital in the functioning of society from a macro to a micro-level (Edwards, Franklin and Holland, 2009:9). Social capital is more than just networks; it has elements of human capital which include skills, knowledge, expertise, and influence.

### **3.3.1 Discrepancies in the theory of social capital**

There are a few models that analyse social capital and there is a great deal of disagreement and contradiction in its definition (Adler and Kwon, 2002:4). Social capital has several definitions and interpretations, given that it is a concept coined in the social sciences and has value in economics, sociology, and psychology. The value of social capital is very dependent on the context under consideration and the discipline that is being analysed. It has various interpretations by different social scientists and is influenced by critical, rational and functionalist traditions that extend characterisation from the individual to communities (Tzanakis, 2013:2). Social capital has the potential to generate productive benefits by increasing the rate of economic and social beneficitation. However, it must also be understood that social capital can also be used for selfish gain and improper conduct.

Social capital is defined in various ways, with the common elements being social structure and valuable arrangements within it that create a bond (Coleman, 1988:98). The idea of this study is not to get trapped in the quest to identify the perfect definition of social capital but to accept the common general understanding of the term and effectively apply the term to the study and understand how social capital can be beneficial in contributing to third stream income at a university. Hence, the research seeks to develop and inculcate noble, ethical and honorable principles to breathe wholesomeness into the development of social capital. Social capital is the stock of trust, mutual understanding, shared values and socially held information that promotes economic coordination and social activity (Goodwin, 2003:6).

### **3.3.2 Introduction to prominent social capital theorists**

The seminal works purported by Pierre Bourdieu, James Coleman and Robert Putnam are some of the most celebrated theorists that have contributed to the concept of social capital. In the 1970s and 1980s, Pierre Bourdieu developed the concept of social capital, but it was James Coleman who

combined economic and sociological thought under the auspices of rational action theory, which attracted social scientists and policymakers. It was Robert Putnam who brought the concept of social capital to much prominence (Kilpatrick, 2003:13). Although many concur on the position that relationships influence access to resources for the purpose of social action, they differ with other theorists on the exact definition. Bourdieu (1986) and Putnam (1995) accept that resources, both actual and potential, can be acquired through social networks (Nahapiet and Ghoshal, 1998:243).

Social capital has various interpretations for different social scientists and is influenced by critical, rational and functionalist traditions that extend characterisation from the individual to communities (Tzanakis, 2013:2). Three main schools exist in modern social capital theory. The first school of thought considers the economic and rational influence of social capital, which is embedded in the rational choice theory mainly purported by Gary Becker and James Coleman, who focused on policy-biased theories of growth and economic development that were supported by the World Bank. The second contemporary school of social capital focuses on the political and democratic approach developed by Robert Putnam, which finds its roots in modern neo-Tocquevillean political science and theories of democratic associations (Edwards, Franklin and Holland, 2009:15). In 1832, Alexis de Tocqueville explained in detail how democracy and economic strength among the American people formed a sound basis for prosperity and development. He postulated that voluntary association formed a social glue that bonded the American people through status and transactional obligation, that created the more traditional and hierarchical relationships that were more prominent in Europe at the time (Kilpatrick, 2003:5). The third school, which is identified as a Marxist and critical school of thought within social capital theory promoted by Pierre Bourdieu, focused on understanding the functioning of social groups, power relations and stratifications of class, which were embedded in empirical studies of culture (Edwards, Franklin and Holland, 2009:15). The leading work on social capital has been developed by James Coleman, Robert Putnam, and Pierre Bourdieu. The works of Coleman and Putnam are considered to be the mainstream of social capital theory, focuses on values and networks of systems. Bourdieu, who is considered to have adopted a critical view of social capital theory brings discussions of inequality and social justice into the evaluative process (Edwards, Franklin and Holland, 2009:2).

## **3.4 Theorists of social capital theory**

### **3.4.1 Pierre Bourdieu**

Pierre Bourdieu was a European sociologist interested in the notion of social class and different forms of inequality. He explained the dynamics of organised sets of values and thinking as what he termed “the habitus” which he saw as creating the bridge between subjective agency and objective position. Bourdieu claimed that groups used cultural symbols to create identities and distinguish themselves in society (Kilpatrick, 2003:13). The sum of real and possible resources that exist within a member of an organisation who shares mutually beneficial relations and acknowledgement (Bourdieu, 1986:248). The main position of social capital theory is that relationships and networks are important foundations to provide participants in a group with collectively owned capital, which allows the participants to possess residual credits that are found through mutual acknowledgement. Bourdieu (1986) stated that the credits materialised from mutual gratitude, respect, and friendship (Nahapiet and Ghoshal, 1998:243).

### **3.4.2 Robert Putnam**

Robert Putnam, a prominent American political scientist, made some significant contributions to the theory of social capital. Putnam defines social capital as the amount of trust that exists in a network as its main value and aggregates social capital from small groups to large-scale societies (Tzanakis, 2013:6). He introduced the importance of trust and reciprocity as important components responsible for establishing norms in social networks and this draws attention to networks and norms in the understanding of social capital. Putnam (1995) observed that social capital is not a unidimensional concept (Nahapiet and Ghoshal, 1998:243). Putnam went on to explain the two distinct types of social capital: bridging, which was developed inclusively, and bonding, which was developed exclusively. This means that bonding social capital reinforces exclusive identities in social networks and maintains homogeneity, while bridging social capital brings diverse individuals together. Bonding social capital is good for ‘undergirding specific reciprocity and mobilising solidarity’ while serving as ‘a kind of sociological superglue’ in maintaining strong in-group loyalty and reinforcing specific identities (Kilpatrick, 2003:32).

### **3.4.3 James Coleman**

Coleman, an eminent American sociologist, held the view that society is an accumulation of a number of social systems influenced by individual behaviour. Social capital is defined by many different things, with the common elements being social structure and valuable arrangements

within social structures that create a bond (Coleman, 1988:98). He felt that to bring about social order in society, behaviour at a systems level must be disaggregated to understand individuals' choices and their actions. Coleman's rational choice theory assumes an individualistic view of human behaviour, in which people are driven by self-interest and do not consider the needs of others (Kilpatrick, 2003:21). Social capital consists of a variety of units defined by their function of having two features in common, which are being reliant on social structure and being a catalyst for individuals in a grouping to work towards a common beneficial purpose (Coleman, 1990:302).

#### **3.4.4 The three-dimensional model of Nahapiet and Ghosal**

This study outlines the understanding of social capital and uses the definition provided by Nahapiet and Ghoshal (1998) as it is most appropriate to explore the emotional intelligence – social capital nexus towards attitudes in third stream income generation at a university. Social capital has three constructs: it creates new intellectual capital; its organisations are fertile to promote high levels of social capital; and it increases with density and time (Nahapiet, 1998:1). The first construct refers to organisational structure, patterns in human connections and organisational network nexus; the second is competencies of shared knowledge, shared symbols and understanding; and the third is norms, trust, roles, and expectancy (Fandiño, 2015:25). Social capital refers to the outcomes of human social engagement and connectedness in beneficial relationships with individuals and groups (Tzanakis, 2013:2). Research has shown that social capital has bridged the relations between universities and businesses through structural (nature of relationships), relational (trust and commitment) and cognitive (interest and understanding) dimensions (Al-Tabbaa and Ankrah, 2016:4). The three-dimensional model of social capital developed by Nahapiet and Ghoshal (1998) is relevant to the operations of the entrepreneurial university ecosystem, where the structural dimension promotes access to resources, the cognitive dimension builds relations in the entrepreneurial ecosystem and the relational dimension fosters reciprocal relations and builds trust within the system (Theodoraki, Messeghem and Rice, 2018:153). The concept of firms as social communities was introduced by Kogut and Zander (1993), who viewed these institutions as creators that transfer knowledge within the organisation (Kogut and Zander, 1993:625). This is an important point of departure for this study, as the term “firm” is used metaphorically to include all organisations that create and transfer knowledge. The idea of the firm specialising, transferring and repurposing knowledge was the basis for the theory of multinational corporations. A multinational corporation is an organisation that evolves from its national position to serve international markets (Kogut and Zander, 1993:625). The university can also be defined as a firm based on the above explanation of the firm, as it meets the criteria of creating and transferring

internal knowledge in the form of intellectual capital and given the concept of internationalisation of universities discussed in Chapter 2 of this thesis, universities meet the second criteria. In considering the concept of the firm, organisations have the ability to create and share knowledge based on the enabling facility that promotes the transfer of tacit knowledge (Nahapiet and Ghoshal, 1998:242).

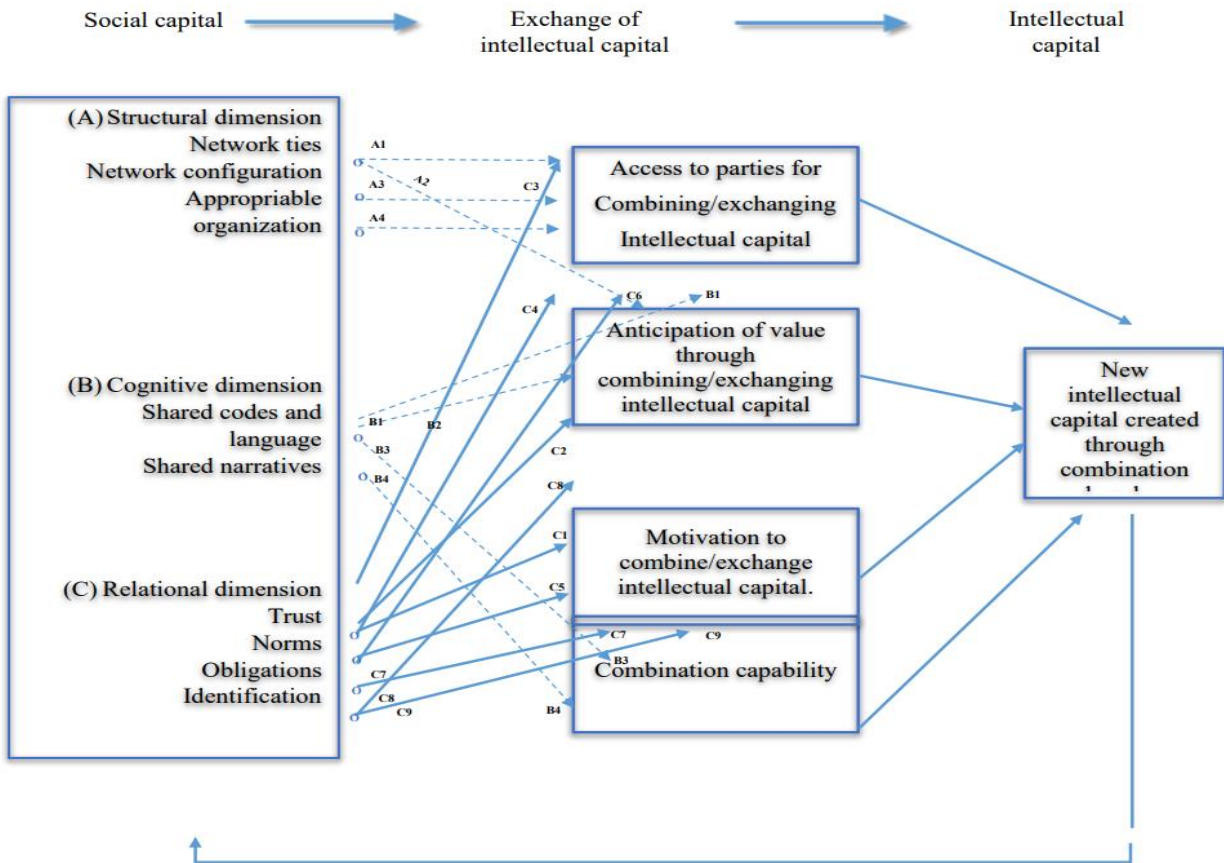


Figure 3. 1: The three-dimensional theory of social capital

Source: (Nahapiet and Ghoshal, 1998:251)

In exploring the function of social capital in the development of intellectual capital, three clusters of social capital were identified: cognitive, structural and relational. The three dimensions are acknowledged for conducting an analytical assessment. It is recognised that the sub-fields of each dimension display characteristics of being highly interrelated (Nahapiet and Ghoshal, 1998:243). The structural dimension improves resource accessibility while promoting the optimal configuration of the system. In order to improve relations within the system, emphasis should be placed on the cognitive dimension and promote trust and effective engagement, with an emphasis on the relational dimension (Theodoraki, Messeghem and Rice, 2018:164).

This study explored the theoretical relevance of the three-dimensional theory of social capital (Nahapiet and Ghoshal, 1998) and the emotional intelligence domains and associated competencies (Goleman et al., 2002) in academics, and how they contribute to third stream income generation.

### **3.5 Justification for the choice of the three-dimensional theory of social capital**

The researcher chose the three-dimensional theory of social capital (Nahapiet and Ghoshal, 1998) because the study conducted by Wenpin Tsai and Sumantra Ghoshal, titled *Social Capital and Value Creation: The Role of Intrafirm Networks* (Tsai and Ghoshal, 1998) found compelling evidence that social capital enables value creation at both the dyadic and business unit levels. The researchers found that the three-dimensional model of Nahapiet and Ghoshal's model (1998) had a significant impact on directly or indirectly facilitating resource exchange and its combination within an organisation. It further established that informal social relations and tacit engagements promoted effective resource exchange and innovation (Tsai and Ghoshal, 1998:473). In a conference paper presented by Janine Nahapiet (2000) titled *Creating Organizational Capital through Intellectual and Social Capital*, which also used Nahapiet and Ghoshal's model (1998), it was found that social capital is a network-based relationship resource. The conference paper argued that social capital shapes the development of intellectual capital and that social capital and intellectual capital co-evolve and are mutually dependent (Nahapiet, 2000:2). This further strengthened the findings in the original theory published in the paper produced by Nahapiet and Ghoshal (1998) titled *Social Capital, Intellectual Capital, and the Organizational Advantage*, which produced evidence that social capital is embedded in social relations and reduces transaction costs by creating an economy similar to the way intellectual capital is created. Their theoretical findings also show factors that support dynamic efficiency and growth (Nahapiet and Ghoshal, 1998:260). Golemans et al. (2002) four dimensions of emotional intelligence, were chosen to complement the nexus because the authors contended that leadership is at its optimum through emotional intelligence, which creates resonance in a group. The focus is on performance, based on the link between neurology and the four dimensions of emotional intelligence competencies, which are considered to be building blocks for modes of research that create resonance in a group (Goleman et al. 2002:48).

*Table 3. 3 The three-dimensional theory of social capital*

<b>Code</b>	<b>Dimension</b>		<b>Description</b>
SCD1	<b>Structural Dimension</b>		The structural dimension is the first in the model and it defines the properties within the social system by describing the relations created by networks that form within the complete system (Nahapiet and Ghoshal, 1998:244). The social structure is defined by network ties, network configuration and suitable organisation.
SCD1.1		Network ties	The basis of the social capital theory is that network ties create access to the required resources. The network ties create connections to important and relevant individuals who possess or have access to the required information or resources required to achieve an end goal (Nahapiet and Ghoshal, 1998:252).
SCD1.2		Network configuration	Network configuration is the structure that is created by the network ties and influences the architecture of the channels of communication, defining the organisation of the network ties and impacting the proximity, form and structure of how information flows (Nahapiet and Ghoshal, 1998:252).
SCD2	<b>Cognitive Dimension</b>		The second dimension of social capital in the model by Nahapiet and Ghoshal (1998) is the cognitive dimension, which defines how social capital is created by the sharing of resources by the agent having a position in the group and having the ability to contribute by virtue of being part of the system. The structural dimension is comprised of shared code and language and shared narratives (Nahapiet and Ghoshal, 1998:252).

Code	Dimension		Description
SCD2.1		Shared codes and language	Language is fundamental and necessary for communication, through which information is shared and exchanged, creating an understanding about the deliberation by the parties concerned, provided the language is shared and understood. Shared language facilitates human interaction and provides access to network ties, information, and resources. Language creates the platform to develop codes, which are specific language organised into sensory data in the form of categories that can be perceived and decoded based on a common frame of reference (Nahapiet and Ghoshal, 1998:253).
SCD2.2		Shared Narratives	Shared narratives are created and transferred by communicating stories and mythologies and using metaphors that provide powerful and vivid imagery to effectively communicate and exchange information that, because of the uniqueness of how it is expressed, is easily stored in memory and persevered as part of the group culture (Nahapiet and Ghoshal, 1998:254).
SCD3	<b>Relational Dimension</b>		The relational dimension is the third and final dimension in the social capital model proposed by (Nahapiet & Ghoshal, 1998). It defines the nature and quality of relations within the group which is fostered by trust, norms, obligations and expectations and identification (Nahapiet and Ghoshal, 1998:254).
SCD3.1		Trust	Trust is defined by the acceptable and favourable response or outcome of an individual that promotes acceptance by others (Nahapiet and Ghoshal, 1998:254).

Code	Dimension		Description
SCD3.2		Norms	A norm is a degree of consensus in a social grouping. When a number of individuals in the group endorse the consensus of an ideal, this becomes the norm of the group (Nahapiet and Ghoshal, 1998:255).
SCD3.3		Obligations and expectations	Obligations are the responsibility to honour a specified commitment or duty in the future (Nahapiet and Ghoshal, 1998:255).
SCD3.4		Identification	Identification is when individuals go through the mental process of using themselves as a measure to compare with others and if there is a match, they consider themselves as having the same identity or make up (Nahapiet and Ghoshal, 1998:256).

Source: (Nahapiet & Ghoshal, 1998)

### 3.6 Emotional intelligence

#### 3.6.1 Introduction to emotional intelligence

Emotional intelligence is a wide collection of character traits and interpersonal skills that, in addition to technical and vocational skills, have become increasingly important to the management of organisational dynamics (Hourilar, 2019:174). Therefore, emotional intelligence is the encompassing mental and physical context for individuals to engage with themselves and others in managing interpersonal connections and relations. It is important to consider the psychological and motivational factors of academic entrepreneurs identified in the two-factor entrepreneurial emotional intelligence model investigating the individual domain (personality; motivation; experience) and contextual domain (societal, market environment, and economy) (Miranda, Chamorro-Mera and Rubio, 2017:114).

### 3.6.2 Theories of emotional intelligence

The term emotional quotient (EQ) was first coined by Bar-On in 1988 as an alternative to intelligence quotient (IQ), which relates to the cognitive abilities of an individual (Cherniss and Goleman, 2001:10). The education system places emphasis on developing cognitive ability by acquiring knowledge, recalling and applying it in problem solving. The human ability to accomplish this is measured by intelligence quotient tests (IQ) and the outcome of the tests is expressed as an IQ score. The higher the score, the better the individual is expected to perform in learning abilities (Bar-On, 2007:1). Psychologist, Edward Thorndike (1920), was one of the first scientists to explore the value of social intelligence. However, the interest in the human factor on the influence of performance can be traced even further to the work done by Charles Darwin in 1872, when he published scientific work on what he referred to as “emotional social intelligence” or simply put, emotional intelligence (EI) (Bar-On, 2007:2). Bar On explained emotional intelligence (EQ) as a set of social and emotional capabilities that are required in the normal course of life. Salovey and Mayer (1990) had a more limited view of emotional intelligence and focused on how individuals process information related to their own and others’ emotions. Goleman identified emotional intelligence from a set of research findings which he termed competencies such as empathy, optimism, and the ability of self-control. Goleman later distinguished between emotional intelligence and emotional competencies. He saw emotional intelligence as the foundation for emotional competencies (Cherniss and Goleman, 2001:10).

A few theories in respect of EQ have emerged, namely the ability model, the trait model, and the mixed model (Goleman 1998). The ability model is dependent on cognition to manage emotions, which results in developing capabilities of observation, insight, and management. The trait model is also partly dependent on the cognition of human attitudes. However, researchers are investigating the distinction between the trait and ability models using personality behavioural profiling (Petrides and Furnham, 2001). To settle this debate, Goleman (1998) introduced the theory of fame, which is a mixed model using competencies and skills (Majeed et al., 2017:574).

#### 3.6.2.1 Bar-On

Bar-On stated that being conscious of emotions, determining the strengths and weaknesses of oneself and others, and having the ability to express oneself in an engaging, constructive and mutually beneficial manner show the ability of a high level of emotional and social intelligence (Bar-On, 2007:2). Reuven Bar-On (1998) developed emotional intelligence within the personality theory of human well-being (Cherniss and Goleman, 2001:14). Job roles and tasks in an

organisation are characterised by engaging in a variety of transactional engagements with colleagues and people, which contribute to learning about the strengths and weaknesses of oneself and others, hence growing and developing oneself. The triumphs and failures in developing one's emotions to be more skilled in engaging within a social context promote more effective performance (Khoavi et al., 2011:78).

### 3.6.2.2 Peter Salovey and John Mayer

In 1990, Peter Salovey and John Mayer postulated the theory of emotional intelligence. Salovey and Mayer (1990) and Mayer, Salovey and Caruso (2000) created a model for emotional intelligence within a model of intelligence. A major assumption in the model is that it masks other forms of ability by displaying patterns of interrelationships considering other measures and empirical data (Kewalramani, Agrawal and Rastogi, 2015:178).

Emotional intelligence is a classification of the social skills of an individual to be able to moderate, perceive and distinguish the emotions of oneself and those of others to manage thought, action and communication. (Mayer and Salovey, 2000; Goleman, 2005). Mayer and Salovey feel that emotional intelligence provides the ability to heighten creativity and solve problems, and it is a type of social intelligence required to manage personal emotions and those of others by having the ability to differentiate and use the information to direct intellect and actions. Emotional intelligence helps in effective organisational and people management in a number of areas, which include human resource management, innovation, process efficiencies, and client and quality management (Cherniss and Goleman, 2001:6). There is a positive correlation between socialisation, empathy, and social skills in relation to emotional intelligence and organisational transformation (Akhavan *et al.*, 2015:140).

In Mayer and Salovey's model, emotional intelligence is developed on four major levels of concepts, from simple theories to complex concepts, which include emotions and awareness. The first level "mental ability model" is a skill that allows a person to distinguish, express and access their own and others' emotions and feelings. The second level is about how to use EI to organise the thinking process. With lots of emotions in logical thinking, it will help to have better judgment and provide various points of view to be considered when making precise decisions. The third level shows the ability to differentiate between emotions and recognise the tiny differences in concepts. The intelligence of this ability enables the person to prevent mixed feelings. The fourth level of this framework refers to the social emotions of others. This ability helps a person to organise his emotions to enrich communication in society and with others (Khoavi et al., 2011:79).

### 3.6.2.3 The Goleman, Boyatzis, and McKee (2002)

The theoretical model used in this study was the emotional intelligence domains and associated competencies developed by Goleman et al. (2002), which produced the four-dimensional model of emotional intelligence (Goleman et al., 2002:47). The researcher studied the different theories in emotional intelligence, which are analysed in this chapter and builds a case for why the Goleman et al.'s (2002) model was identified. In the comparative study of the emotional intelligence theories, it was found that the model had the most comprehensive coverage of the emotional intelligence competencies. Goleman developed a model of emotional intelligence within the theory of performance. The common fact in all models is that they view emotional intelligence as having the ability to understand one's own emotions and those of others (Cherniss and Goleman, 2001:14). According to Goleman et al. (2002), studies have shown that the leader's feelings and emotions can influence the group. If a leader is "upbeat", members of the group will be positively influenced, more confident, display greater productivity and creativity and make better decisions. The converse applies to leaders who are not in tune with the group, which will negatively affect the performance (Lubbadeh, 2020:44). The theorists were also found to be active in contemporary research in the field of emotional intelligence and which assist in building on current findings in the field. This study uses the emotional intelligence domains and competencies model to determine the essential emotional intelligence competencies required to create social capital towards improving positive attitudes towards third stream income generation at UKZN.

The contestation of whether emotional intelligence is inherent and something that people acquire at birth or develop through socialisation has gone on for a long time. This is a question we need to explore further, but from the research done by Goleman, Martinez, and Cooper, it is stated that EQ can be developed (Khoavi et al., 2011:77). There are obvious differences between training and development, psychotherapy, and counselling, but their areas of human development share much in common with respect to the development of emotional intelligence. The three spheres depend on empirical research and involve the development of social and emotional learning (Cherniss and Goleman, 2001:218). Relationships organically allow individuals to become more emotionally intelligent. In order to change and improve emotional intelligence in an organisation, formal training and the implementation of policies, which are dependent on human engagement and the nature of relationships can be used (Cherniss and Goleman, 2001:7).

Empirical research has shown that IQ and measures of other cognitive abilities have limitations in predicting the success of individuals and emotional intelligence has a strong correlation to

performance in particular situations due to a limited number of plausible longitudinal studies that investigate the comparative cognitive and emotional abilities (Cherniss and Goleman, 2001:10). Mayer, Salovey, and Caruso (2000) highlight the difference between mixed models of emotional intelligence and those that are pure and focus on cognitive abilities. They claim that mixed models generalise the mix of the understanding of personality attributes with cognitive abilities (Cherniss and Goleman, 2001:20).

*Table 3. 4 Emotional intelligence domains and associated competencies*

Source: The new leaders (Goleman et al., 2002:47/8)

**PERSONAL COMPETENCE:** These competencies determine how we manage ourselves.

**SELF-AWARENESS**

- Emotional self-awareness: Reading one's own emotions and recognising their impact, using "gut sense" guide to decisions
- Accurate self-awareness: Knowing one's strengths and limits
- Self-confidence: A sourced sense of one's self worth and capabilities

**SELF-MANAGEMENT**

- Emotional self-control: Keeping disruptive emotions and impulses under control.
- Transparency: Displaying honesty and integrity; trustworthiness.
- Adaptability: Flexibility in adapting to changing situations or overcoming obstacles.
- Achievement: The drive to improve performance to meet inner standards of excellence.
- Initiative: Readiness to act and seize opportunities.
- Optimism: Seeing the upside in events.

**SOCIAL COMPETENCE:** These capabilities determine how we manage relationships.

**SOCIAL AWARENESS**

- Empathy: Sensing others' emotions, understanding their perspective, and taking active interest in their concerns.
- Organisational awareness: Reading the currents, decision networks and politics at the organisational level.
- Service: Recognising and meeting follower, client or customer needs.

**RELATIONSHIP MANAGEMENT**

**Inspirational leadership:** Guiding and motivating with a compelling vision.

- Influence: Wielding arrange of tactics for persuasion.
- Developing others: Bolstering others' through feedback and guidance.
- Change catalyst: Initiating, managing and leading in a new direction.
- Conflict management: Resolving disagreements.
- Building bonds: Cultivating and maintaining a web of relationships.
- Teamwork and collaboration: Cooperation and team building.

### **3.7 Four dimensions of emotional intelligence and associated competencies**

The set of emotional competencies is credited to the work done by Boyatzis, Goleman and Rhee, who designed and administered the questionnaire to almost six hundred corporate managers, engineers, professionals, social workers, and graduate students. Participants were expected to identify at what level each of the statements related to their behaviour. A comparison of the ratings was done with people from similar vocational groups. The twenty competencies were compared with those of people from similar vocations and clustered into three domains of self-awareness, self-management, and relationship management. Social awareness emerged from statistical analysis (Cherniss and Goleman, 2001:29).

Goleman, Boyatzis, and McKee (2002) developed four dimensions of emotional intelligence, referred to as emotional intelligence domains and associated competencies (Goleman et al., 2002:47). Emotional intelligence competencies are abilities that are learned. The emotional intelligence model has been simplified into four domains: self-awareness, self-management, social awareness, and relationship management, each consisting of eighteen competencies (Goleman et al., 2002:46). These competencies allow leaders to be more amplified and effective in business and financial performance (Goleman et al., 2002:46).

Emotional intelligence is a set of competencies that help managers be more flexible in motivating themselves and others in decision-making and development (Soundararajan, 2017:4). Emotional intelligence competencies are learned. Each competency allows leaders to be more amplified and effective in business and financial performance (Goleman et al., 2002:46). This study will use the emotional intelligence domains and competencies model to determine the essential emotional intelligence competencies required to create social capital to improve positive attitudes towards third stream income generation at UKZN. Goleman's model will be used to structure questionnaires, develop focus groups and interview questions, and therefore, serve as a reference to identify the required emotional intelligence traits to develop trust and entrepreneurial social capital for effective third stream income generation at UKZN. There is a positive correlation between socialisation, empathy, and social skills regarding emotional intelligence and organisational transformation (Akhavan, 2015:140).

*Table 3. 5 Emotional intelligence domains and associated competencies*

Source: (Goleman, Boyatzis, and Mckee, 2002)

<b>Domain</b>	<b>Code</b>	<b>Description</b>
<b>Self-awareness</b>	EQD1	Self-awareness is the ability to have a profound understanding of one’s own emotions, strengths, weaknesses, value system and purpose. These individuals are always connected to reality and are honest with themselves and others. Self-aware leaders are defined by having a clear understanding of their goals and ambitions and living close to their value systems. They are also very intuitive about where they are heading and are decisive in making decisions to keep them focused on their trajectory (Goleman et al., 2002:49).
<b>Self-management</b>	EQD2	Self-management is a component of emotional intelligence, defined as the ongoing internal conversation that allows the individual to be honest with themselves. It is internal engagement that helps bring about mental clarity, guide decision-making and create focus, which helps dissolve disruptive emotions. This is an important skill for leaders as it promotes self-mastery and keeps them positive and optimistic (Goleman et al., 2002:57).
<b>Social awareness</b>	EQD3	Social awareness is defined as having empathy. This originates from the physiology of the individual, emanating from the neurons that extend circuitry connections from the amygdala in the brain, which helps to read the other person’s feelings and emotions and attune the brain to the feelings and emotions of the receiver. This helps the receiver to be empathetic and stay

<b>Domain</b>	<b>Code</b>	<b>Description</b>
		in tune with another’s feelings and emotions, providing caring and compassionate responses (Goleman et al., 2002:60).
<b>Relationship management</b>	EQD4	Relationship management is dependent on the ability to connect self-awareness, self-management, and social awareness (empathy) to other people to build and maintain human relations. Some of the most important tools for relationship management include persuasion, conflict management and effective facilitation of collaborative engagements. Skilful relationship management requires the effective management of others’ emotions. Leaders are therefore required to be in tune with their own emotions and the individuals they are engaging with to effectively manage relations and relationships (Goleman et al., 2002:64).

*Table 3. 6 Emotional intelligence domains and associated competencies*

Source: (Goleman, Boyatzis, and Mckee, 2002: 327/332)

<b>Domain</b>	<b>Code</b>	<b>Competency</b>	<b>Description</b>
<b>Self-Awareness</b>	EQC1	Emotional self-awareness	High levels of self-awareness allow leaders to be connected and in tune with their inner signals, making them aware of how it impacts work performance. This allows them to be connected to their values, which aid in the decision on the best course of action and the ability to see the big picture in times of complexity. It also allows these leaders to be direct and authentic. They can speak freely about emotions and convincingly

<b>Domain</b>	<b>Code</b>	<b>Competency</b>	<b>Description</b>
			about their guiding vision (Goleman et al., 2002:327).
	EQC2	Accurate self-assessment	Leaders with high levels self-awareness are realistic about their strengths and limitations, exhibiting a sense of humour about themselves. They are humble and graceful in learning about where they need to improve, welcoming constructive criticism and feedback. Accurate self-assessment allows a leader to establish when they need to request help and where to develop new leadership competencies (Goleman et al., 2002:327).
	EQC3	Self-confidence	Having accurate knowledge of their abilities directs leaders to their strengths. These leaders do not shy away from difficult tasks. They have a sense of presence that makes them noticeable (Goleman et al., 2002:328).
<b>Self-Management</b>	EQC4	Self-control	Leaders with self-control can manage negative emotions and impulses converting them to constructive outputs. Self-controlled leaders are calm and have clarity of thought in crises and are unfazed in difficult situations (Goleman et al., 2002:328).
	EQC5	Transparency	Leadership that displays transparency lives by its value system. Transparency is having the ability to be open and honest about one's

Domain	Code	Competency	Description
			feelings, actions, and beliefs, thus promoting integrity. These leaders are not afraid to admit mistakes or shortcomings and are bold enough to tackle unethical behaviour (Goleman et al., 2002:328).
	EQC6	Adaptability	Adaptable leaders can execute multiple tasks without neglecting focus or expending too much energy and are comfortable operating within the complexities of organisational dynamics. They are flexible, enjoy new challenges and are agile in dealing with change (Goleman et al., 2002:328).
	EQC7	Achievement	Leaders who are driven by achievement have high personal standards, motivating them to pursue performance improvements in themselves and the teams they lead. They are practical and set measurable and challenging goals. They are good at calculating risks. They are also keen to learn and teach methods of improvement (Goleman et al., 2002:329).
	EQC8	Initiative	These are leaders who have the efficacy to manage their own journey and excel at what they do. They are noted for creating opportunities and they are not disabled by conventional processes and bureaucracies (Goleman et al., 2002:329).

<b>Domain</b>	<b>Code</b>	<b>Competency</b>	<b>Description</b>
	EQC9	Optimism	Optimistic leaders embrace any challenge and are not affected by threats and challenges. They have a positive perspective of others and situations and promote the best in people (Goleman et al., 2002:329).
<b>Social Awareness</b>	EQC10	Empathy	Empathetic leaders are in tune with their emotional signals, allowing them to feel and interpret verbal and nonverbal communication. They are attentive listeners and take interest in other perspectives, allowing them to engage and get along well with diverse groups of individuals (Goleman et al., 2002:330).
	EQC11	Organisational awareness	A leader who is socially aware can be politically insightful, establish important networks and easily interpret power relationships (Goleman et al., 2002:330).
	EQC12	Service	Service-oriented leaders create an emotional climate that promotes effective customer and client relations and are effective at relationship management (Goleman et al., 2002:330).
<b>Relationship Management</b>	EQC13	Inspiration	Inspirational leaders move individuals to subscribe to a compelling shared vision. They could articulate themselves well and inspire others to participate in the vision. They promote a collective purpose and convert mundane

<b>Domain</b>	<b>Code</b>	<b>Competency</b>	<b>Description</b>
			activities into more exciting work (Goleman et al., 2002:330).
	EQC14	Influence	Leaders who possess the power of influence have the appeal to be heard and establish support from members of the network to support the initiative. They are interesting and have the skill of persuasion (Goleman et al., 2002:331).
	EQC15	Developing others	Leaders who take an interest in developing others are sincere and show interest in helping others interpret goals and identify strengths and weaknesses. They provide effective feedback and are naturals at coaching and mentoring (Goleman et al., 2002:331).
	EQC16	Change catalyst	Leaders who are effective in promoting change, recognise the need for change, challenge the status quo and are prepared to lead the new vision. They are strong individuals who can challenge resistance by presenting compelling arguments (Goleman et al., 2002:331).
	EQC17	Conflict Management	Leaders who are effective at conflict management can get all parties concerned to understand the different perspectives and facilitate agreement on a common ideal. They effectively get participants to express their feelings and constructively redirect the energies

<b>Domain</b>	<b>Code</b>	<b>Competency</b>	<b>Description</b>
			toward a shared perspective (Goleman et al., 2002:331).
	EQC18	Teamwork and collaboration	Leaders who can promote teamwork are role models for creating an atmosphere of respect, cooperation, and support. They can get participants to contribute enthusiastically and be active participants in promoting a collective team effort, creating an identity for the group effort. They help maintain constructive working relations and a good atmosphere in the group (Goleman et al., 2002:332).

### **3.8 Importance of emotional intelligence in the HEI environment**

Scientists and researchers have offered many definitions and models of emotional intelligence since its conception. There have been many contestations on the definitions and models, but several researchers have emphasised the same set of abilities, stressing personality traits, and social and emotional skills (Lubbadeh, 2020:40). University academics work in an environment that is in constant change, intensified by the emergence of the fourth industrial revolution and the digital economy. Academics are involved in teaching, learning, supervision, and research, which places them at the cusp of new knowledge and innovation. One of the key factors promoting professional engagement is emotional intelligence, which leads to satisfaction in the work environment and progress during life (Kassim et al., 2016:220). The ability to differentiate between one's feelings and those of others is emotional competence connected to behavioural decisions, which is intrapersonal intelligence. Developing an understanding of emotional intelligence permits academics to teach and learn emotional intelligence skills, which contribute to a more productive and enriching life (Kewalramani et al., 2015:178).

Emotional intelligence is the starting point to understanding the intricate process of entrepreneurship (Miranda, Chamorro-Mera and Rubio, 2017:114). Interpersonal skills, which include emotional intelligence, communication, negotiations, deal making and networking, have

been shown to be more prominent than other competencies as motivators amongst Irish entrepreneurs (Rezaei Zadeh et al., 2017:61). A study in emotional intelligence conducted among academics at Kano State University found that emotional quotient interventions can add value by creating an improvement in academics' professional performance and contributing to more meaningful collegiality. Emotional intelligence increases the rate of academic engagement and promotes trust, thus strengthening team performance and facilitating change (Kassim et al., 2016:219).

### **3.8.1 Advantages of emotional intelligence**

Emotional intelligence development contributes to building trust and integrity and it is suggested that emotional intelligence tests can be administered to determine promotions, staff reviews and recruitment (Kassim et al., 2016:226). There is a positive correlation between socialisation, empathy, and social skills in relation to emotional intelligence and organisational transformation (Akhavan, 2015:140). People with high emotional intelligence believe in their abilities and have greater incentives to engage in entrepreneurial activity (Javed et al., 2016:59). Emotional intelligence gives individuals the confidence to engage in interpersonal and group relations and make the correct choice in terms of behaviour, deportment, communication, building networks and developing social capital. Emotional intelligence can be viewed as a tool and self-assessment check that aids in developing the human capital of an organisation and can be an extension of an asset (Khoavi et al., 2011:76). A challenge facing HEI leadership is how best to monetise all assets effectively (AI-Youbi et al., 2021:20). Academics with consultancy skills such as research and problem-solving can provide governments and commercial enterprises with a wide range of consulting services (Mushemeza, 2016:238).

Emotional intelligence is the classification of social skills of an individual to be able to moderate, perceive and distinguish the emotions of oneself and those of others to manage thought, action and communication (Mayer and Salovey, 2000; Goleman, 2005). Social skills are required for investment pitches, customer management, conflict and negotiation, including decisions with respect to the choice of business associates, workers and suppliers (Nghah, Salleh and Sarmidy, 2016:101). Emotional intelligence lies not only in individuals but is also found in teams as a form of group emotional intelligence and there is a reciprocal relationship with individual emotional intelligence influencing group emotional intelligence and the opposite is also true (Cherniss and Goleman, 2001:7).

### 3.8.2 Benefits of emotional intelligence to leaders

Leaders use inspirational motivation, drawing on emotional intelligence, when crafting and proposing a compelling vision to move subordinates to subscribe to the collective shared vision. Emotional and social competencies contribute to particular behaviour patterns, instilling a sense of sharing, vision, compassion and mindfulness that are key to promoting resonance in leadership relations (Boyatzis *et al.*, 2013:21). Emotional intelligence is relevant to the four areas of transformational leadership, idealised influence, inspirational motivation, and individualised consideration (Majeed *et al.*, 2017:576). Leaders draw on intellect and charisma to encourage groups to be vocal and engage challenges with creative solutions. These leaders understand how to work with people and pay personal attention to their followers' mentorship to provide quick responses. Leaders with high emotional intelligence have the ability to build an organisational culture to enhance the overall performance of the organisation (Ghenu, 2017:775). Leaders in organisations are required to communicate frequently with academics to determine their anxieties and emotions to ensure that delegation and motivation are administered with compassion, understanding, perception and awareness. Leaders are required to have keen insight into the personalities and emotions of academics to clinically understand what would motivate academics to achieve success (Khoavi *et al.*, 2011:79).

Intelligence and the person's achievements, training and college marks may give an individual a competitive advantage and help them to get the job, but only emotional intelligence will determine if a person will be successful in different aspects of management, such as delegation (Khoavi *et al.*, 2011:84). Emotional intelligence is a set of competencies that help managers be more flexible in motivating themselves and others in decision-making and development (Soundararajan, 2017:4). Emotional intelligence is a set of competencies, skills and abilities that can be positive or negative. An individual can use the emotional intelligence competencies to promote prosocial behaviour or to be self-centered and manipulative to execute unethical practices and create stress in others (Lubbadeh, 2020:39). Goleman (1997) identified five core skills that an individual can use to develop their emotional intelligence comprising the following: reduce stress, identify, and manage emotions, ease of connecting with others, confidence to use humour and games to address challenges, and 5) the ability to diminish conflict. Building on and strengthening these five capabilities will improve one's emotional intelligence (Khoavi *et al.*, 2011:77).

Emotional intelligence competencies can be used in performance review processes. The agreed goals, objectives and assessment are predetermined between the manager and subordinate and can

be linked to a reward such as pay. The manager and subordinate can also develop a road map for feedback and the developmental process of emotional intelligence interventions (Cherniss and Goleman, 2001:179). Individuals who have higher levels of emotional intelligence have greater effectiveness in project management and have a formidable impact on outputs, which claim indisputably that high emotional intelligence in academics is vital for project success (Majeed et al., 2017:574). An additional advantage of understanding the four major parts of emotional intelligence is that it creates awareness among employees so that they can apply it to daily tasks, building emotional intelligence organically. Therefore, emotional intelligence is a tool and self-assessment check that aids in developing the human capital of an organisation and can be an extension of an asset (Khoavi et al., 2011:76).

### **3.9 Summary**

The chapter introduced emotional intelligence and social capital and explained the reason for each of the respective theories. An overview of the evolution in the understanding of both emotional intelligence and social capital was provided. The graphical representation of the theoretical models was used to present the illustrations and tables and to explain and further elaborate on each of the concepts that were used to construct the theories. Codes were also inserted in the table, which would provide ease of reference when the concepts are used in the analysis and findings of this thesis. Two potential scenarios for assessing leadership can be drawn from a hypothesis about using emotional intelligence. The first is that a leader with high emotional intelligence is capable of favourably translating and actualising the emotions of employees. This would result in promoting a productive, harmonious, and energised work environment. The second scenario is that a leader with high emotional intelligence may not be able to manage the emotions of employees effectively as they may become overly sensitive and overly involved in the emotional well-being of employees, thus developing a bias. The next chapter covers the research methodology used to conduct the study.

## **CHAPTER 4: RESEARCH METHODOLOGY**

### **4.1 Introduction**

The previous chapter provided the theoretical, three dimensional model of social capital developed by Nahapiet and Ghoshal (1998) and the emotional intelligence domains and associated competencies developed by Goleman et al. (2002). The study adopted a sequential exploratory mixed method design, with qualitative data collected and analysed before the quantitative data (Creswell, 2012:543). An exploratory study allowed for flexibility in the research design and for a wider consideration of the research problem (Kothari, 2004:14). The mixed methods, case study approach allowed the researcher to conduct an in-depth exploration of how the emotional intelligence – social capital nexus in academics impacted attitudes towards third stream income at UKZN. The mixed methods design incorporates techniques from qualitative and quantitative methods to answer research questions (i.e., beliefs and values) (Creswell and Clark, 2018:54).

This chapter explains how the pragmatist research paradigm influenced the choice of research methodology. The chapter explains why only one university site was chosen and provides a description of the population and sample. The qualitative data collection used interviews and focus groups and the quantitative instrument used online and email questionnaires. It also explains why the unit of analysis of academics at UKZN was chosen to conduct the study. A discussion is provided on how reliability and validity were managed for the qualitative and quantitative data collection and analysis. It provides a detailed account of how research ethical compliance was managed in line with the UKZN research ethics protocol. The chapter discusses the limitations with respect to the research methodology. The chapter concludes with a summary of the researcher's experience in using the chosen research methodology, gaps and opportunities the research process uncovered and a contribution to the methodology for future studies.

### **4.2 Research paradigm**

Paradigm is used synonymously with the term worldview. The term “worldview” in research is used when a particular research method is used to conduct a study on a phenomenon based on a set of philosophies and assumptions that inform the study (Creswell and Clark, 2017:85). Paradigms are also referred to as theoretical frameworks, which extend beyond substantive theories to include the assumptions, key concepts, examples of good research and approaches that seek to answer questions (Todd et al., 2004:101). The researcher chose the pragmatic paradigm and developed an understanding of how social capital as a phenomenon is impacted by the

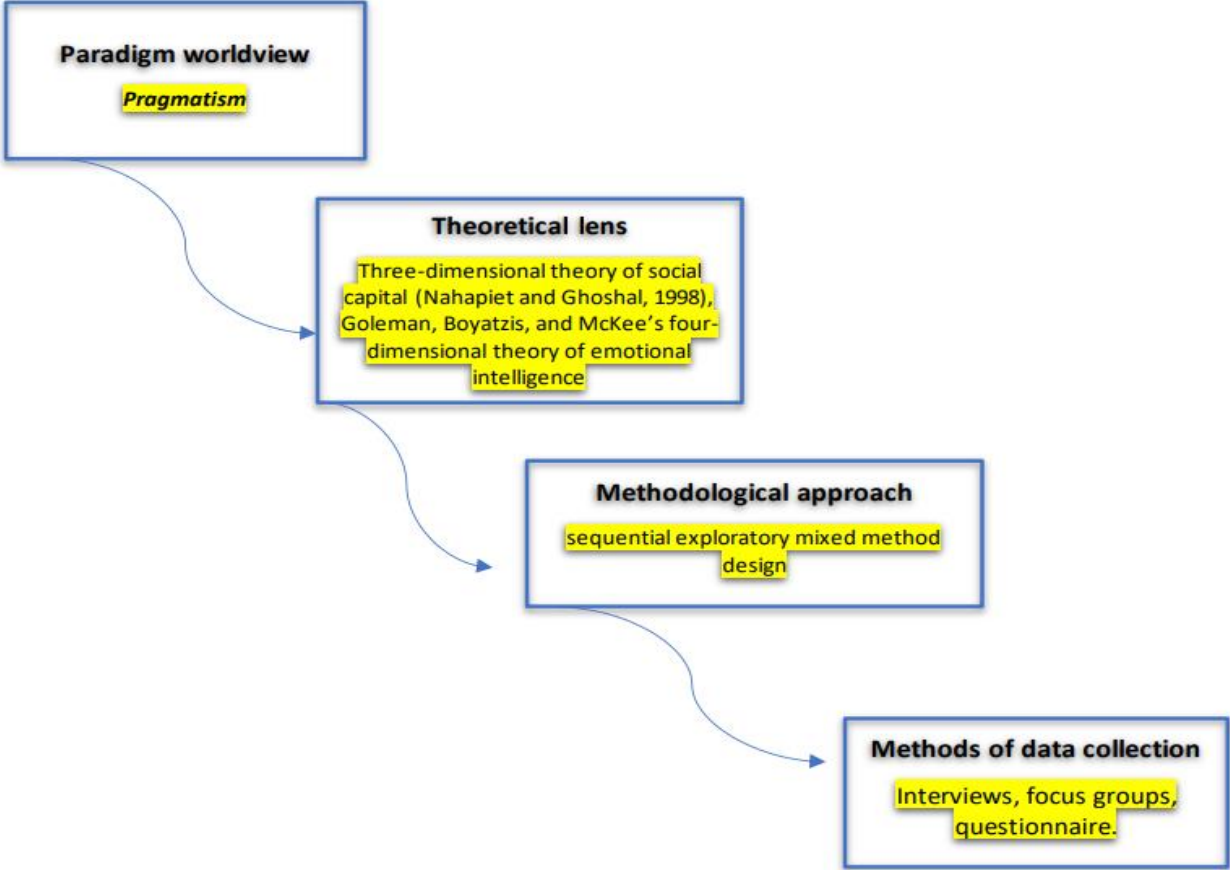
emotional intelligence of academics when collaborating with academic peers on third stream income initiatives. Pragmatism as a paradigm is transformative; it uses an experimental design to undertake the research and develops conceptual and practical tools to find solutions to the research problem (Abreu et al., 2016:1711).

*Table 4. 1 Overview of paradigms*

Source: (Patel; 2015)

Paradigm	Ontology <i>What is reality?</i>	Epistemology <i>How can I know reality?</i>	Theoretical Perspective <i>Which approach do you use to know something?</i>	Methodology <i>How do you go about finding out?</i>	Method <i>What techniques do you use to find out?</i>
Positivism	There is a single reality or truth (more realist).	Reality can be measured and hence the focus is on reliable and valid tools to obtain that.	Positivism Post-positivism	Experimental research Survey research	Usually quantitative, could include: Sampling Measurement and scaling Statistical analysis Questionnaire Focus group Interview
Constructivist / Interpretive	There is no single reality or truth. Reality is created by individuals in groups (less realist).	Therefore, reality needs to be interpreted. It is used to discover the underlying meaning of events and activities.	Interpretivism (reality needs to be interpreted) <ul style="list-style-type: none"> <li>• Phenomenology</li> <li>• Symbolic interactionism</li> <li>• Hermeneutics</li> </ul> Critical Inquiry Feminism	Ethnography Grounded Theory Phenomenological research Heuristic inquiry Action Research Discourse Analysis Feminist Standpoint research etc	Usually qualitative, could include: Qualitative interview Observation Participant Non participant Case study Life history Narrative Theme identification etc
Pragmatism	Reality is constantly renegotiated, debated, interpreted in light of its usefulness in new unpredictable situations.	The best method is one that solves problems. Finding out is the means, change is the underlying aim.	Deweyan pragmatism <i>Research through design</i>	Mixed methods Design-based research Action research	Combination of any of the above and more, such as data mining expert review, usability testing, physical prototype
Subjectivism	Reality is what we perceive to be real	All knowledge is purely a matter of perspective.	Postmodernism Structuralism Post-structuralism	Discourse theory Archaeology Genealogy Deconstruction etc.	Autoethnography Semiotics Literary analysis Pastiche Intertextuality etc.
Critical	Realities are socially constructed entities that are under constant internal influence.	Reality and knowledge is both socially constructed and influenced by power relations from within society	Marxism Queer theory feminism	critical discourse analysis, critical ethnography action research ideology critique	Ideological review Civil actions open-ended interviews, focus groups, open-ended questionnaires, open-ended observations, and journals.

The Table 4.1 above provides a clear visual representation of the different paradigms and how they impact the choice of methods, methodologies and theoretical perspectives. As a research philosophy, pragmatism is embedded in a framework focused on the research problem within the real world context and is flexible in the design choice of the epistemological, ontological and axiological framing of a research study (Maarouf, 2019:2). The pragmatic paradigm establishes compelling answers to the research problem by exhausting approaches and does not allow fixation on a particular research method (Anyan, 2018:58). It further entrenches subjective and objective epistemology, inductive and deductive research design and a sequential exploratory qualitative and quantitative mixed research methodology of data collection. The diagram below by Crotty (1998) has been adapted and superimposed with information on the design of this study.



*Figure 4. 1 Four levels for developing a research study*

Source: (Creswell and Clark, 2018:86)

Based on Crotty's (1998) four stage model above, the research used a pragmatic paradigm and the theoretical frameworks of the three-dimensional theory of social capital (Nahapiet and Ghoshal, 1998) and (Goleman, et al.'s, 2002:47) four dimensional theory of emotional intelligence. The sequential exploratory mixed methods case study design methodology guided the techniques that were employed to collect information and analyse and make sense of the data (Creswell and Clark, 2018:85). The data collection methods used were interviews and focus groups for the qualitative research and a questionnaire for the quantitative research.

As discussed in Chapter 2, universities operate in an environment impacted by constant change and policy reform brought about by the national government and the institution. The researcher used the pragmatist paradigm so that he could use a more expansive research design and collect data from literature available in public domain such as institutional strategies, annual reviews, research reviews and reports, extending into mixed-methods data collection. The mixed-methods approach conducted interviews and focus groups using semi-structured interview schedules to collect the qualitative data. This allowed the researcher to probe the participants for more detailed information and seek clarity in understanding the experience and context. An online questionnaire was used to collect the quantitative data. The study used the theoretical lens of the three-dimensional model of social capital developed by Nahapiet and Ghoshal (1998) and the emotional intelligence domains and associated competencies developed by Goleman et al. (2002). The theories presented provided models for the researcher to understand the structures and competencies that impact social capital and emotional intelligence. The theories further allowed for logical, sequential and integrated models to understand, design and interpret the concepts of social capital and emotional intelligence in relation to attitudes towards third stream income. It also allowed the researcher to use the theories of Nahapiet and Ghoshal (1998) and Goleman et al. (2002) to construct the qualitative and quantitative research instruments, ensuring that each competency within the model has been factored into the data collection tools. These theories are prominent and extensively used in the social sciences, validating their reliability and validity.

### **4.3 Research design**

A mixed research methodology, allowed the researcher to use multiple approaches for data collection techniques and procedures to address the context and purpose of the research. Mixed-methods research design defines the process by applying qualitative and quantitative procedures to collect, organise and mix data, producing logical and empirical arguments to systematically address the research problem (Creswell and Guetterman, 2019:22). Pragmatism is “a

conceptualisation of the ontological, epistemological, and axiological stances in a way that combines the quantitative and qualitative paradigms as two integrated, not conflicting philosophies” (Maarouf, 2019:6). Qualitative and quantitative research in a mixed methods study helped the researcher create a good understanding of the study by using interviews and quantitative approaches to generate statistical data that is more objective (Dawadi et al., 2021:27).

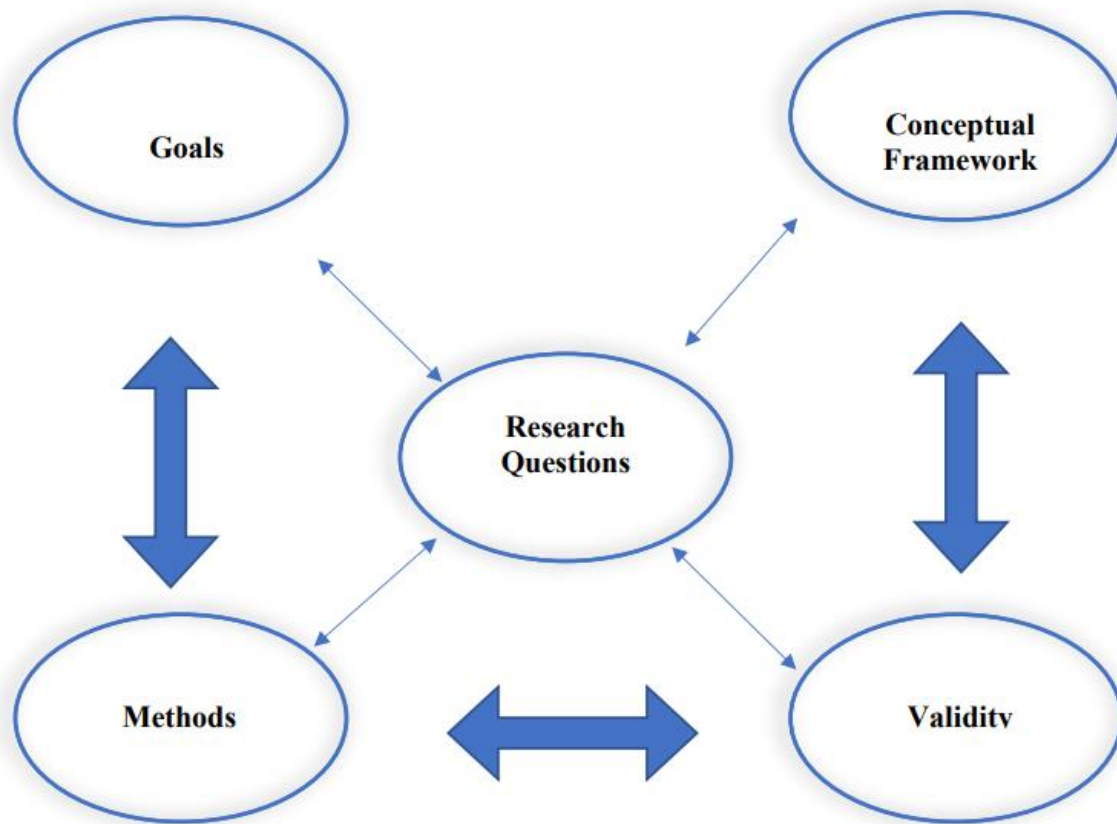
Ontological and epistemological approaches are used in contemporary sociological research, helping researchers understand how social phenomena are analysed. Epistemology is how researchers gain knowledge of what they know (Creswell and Clark, 2018:88). Epistemology is “the branch of philosophy that studies the nature of knowledge and the process by which knowledge is acquired and validated” (Gall et al., 2003:13) and ontology is “the nature of our beliefs about reality” (Richards, 2003:33). They are dependent on assumptions and principles that the researcher uses as judgement to interpret the phenomena. It is important to be aware and make choices in the study to better understand what underlies the choices in the research and how this study differs from other studies related to the phenomenon (Lawrence Neuman, 2014:93).

This study was new in the field and using the pragmatic paradigm allowed the researcher the flexibility to use scientific research methods but at the same time use value judgements in designing the research instruments and analysing and interpreting the data.

#### **4.3.1 Methodological approach**

Research methodology is a scientific and systematic way to solve research problems. It contains a few systematic steps that have previously been validated by other researchers and proven to be effective in solving the same or similar research problems. It follows a chronological and logical step-by-step process, which in most cases, is presented as a model (Kothari, 2004:7). In order for researchers to effectively employ a particular research methodology, they need to understand the particular research tools and techniques that are relevant to the methodology (Kothari, 2004:8). The research design phase identified an effective method to explore the relationship between social capital, emotional intelligence and academics attitudes third stream income generation at UKZN. The researcher consulted literature and engaged with experts in the fields of psychology and sociology to inform the research design, ensuring valid, reliable and trustworthy data was collected, considering the research design. The researcher developed his understanding of research methodology by consulting research methodology textbooks and considering the nature of his study, he decided to use the interactive model of research design developed by Maxwell (2012) and supported by Creswell and Clark (2018:11).

*Figure 4. 2 Interactive model of research design*



**Source: Designing and conducting mixed-methods research (Creswell and Clark, 2018)**

The goal was to develop a framework using emotional intelligence and social capital to promote increased participation of academics in third stream income activities at UKZN. In his preliminary literature, the researcher established that emotional intelligence and social capital were of importance in developing positive attitudes towards third stream income generating activities. This justified the need to include both the theoretical frameworks in the study.

UKZN was identified as the singular study site because the researcher, in constructing the research proposal, established that the university had gone through a particular evolution. This was due to the historical past, merger, strategic vision, transformation, institutional college model, institutional policies and human resource development, which were only applicable to UKZN. These factors have resulted in unique situational experiences for academics, which have impacted the emotional intelligence and social capital constructs in a particular way.

The design process used the theoretical frame of the three dimensional model of social capital developed by Nahapiet and Ghoshal (1998) and the emotional intelligence domains and associated competencies developed by Goleman et al. (2002) to design the interview, focus group semi-structured questions and research questionnaire. The decision to use a mixed methods design, where the qualitative data was collected first and analysed to inform the design of the quantitative instrument, was made because qualitative research is more relevant in the building of theories and traditionally, a large proportion of research findings emanate from qualitative research and are further time tested in a large scale quantitative study (Stockemer et al., 2019:22). The qualitative research conducted interviews and focus groups with identified academics and academic leaderships. Focus groups allowed the researcher to establish a deep understanding of the study by identifying deep subjective interpretations in a shared environment, which informed the process of screening and refinement when constructing the survey questions (Krivokapic-Skoko, 2008:64). Quantitative research requires a good understanding of the most appropriate theories underpinning the area of study and sound knowledge of the phenomenon with the purpose of explaining causality in relationships and identifying gaps in knowledge (Stockemer et al., 2019:18).

The questionnaire was sent to the UKZN Research Ethics Committee for approval and once it was approved, the researcher wrote to the UKZN webmaster to have the questionnaire on the UKZN intranet. This was placed under the research section with specific instructions that it should only be completed by academics. The outlying concepts were given more attention in the design of the quantitative method, which used an online questionnaire to collect data.

#### **4.3.2 Defining and situating case study mixed methods approach**

The exploratory sequential mixed methods research approach ignites the possibility of applying worldviews or paradigms that include different values and beliefs and has the possibility of considering all paradigms that cover qualitative and quantitative research (Creswell and Clark, 2017:54). A case study conducts an in-depth analysis of a selected number of events and considers their interrelationships. It looks at the process that takes place in their interrelations, is a focused investigation on factors that affect the phenomena under study and works to establish patterns of behaviour (Kothari, 2004:126). The experience of the researcher, limitations, ethical requirements, resources and the literature impact the decisions of the mixed methods design (Creswell and Clark, 2017:111). In a case study mixed methods approach, the researcher uses mixed methods and integrates the flow of the qualitative and quantitative research approaches into the data collection, while empirical data is being used to construct the case study in the real world (Cook and

Kamalodeen, 2020:48). Mixed methods research brings together qualitative and quantitative research methodologies (Pluye and Hong, 2014:28). In designing the case study frame, the researcher defines the boundaries of the case study by determining what parameters are in the study and those that are not, thereby providing a clearly defined boundary for the development of the case (Cook and Kamalodeen, 2020:53).

While the data was being collected, the researcher concurrently worked on the case study of UKZN, developing an understanding of the factors that impacted academics attitudes towards third stream income generation during the period. A case study mixed method approach explores bounded systems through an in-depth examination, multiple forms of data collection and analysis, and descriptive thematic development (Creswell and Guetterman, 2019:466). Cook and Kamalodeen explain that these two approaches are “not separate entities, but rather the boundary between them is permeable and fluid, allowing each to either support or lead in a research endeavour”. To support a pragmatic approach, combining the mixed methods and case study approaches incorporates both inductive and deductive reasoning into the research (Cook and Kamalodeen, 2020:48). The study used university publications, annual reviews, research reports and communications shared on the university website to support the literature review of the study. This case study methodology was also used to write up the findings chapter, presenting the discussion as a case study.

#### **4.4 Population and sample**

This study employed a purposive sampling technique for the qualitative data collection to identify respondents to take part in the interviews and focus groups. Purposive sampling is when the researcher deliberately identifies and selects a group of individuals who have the specific criteria that are most appropriate to collect the required data for the study (Kothari, 2004:15). An important aspect of designing the case study is identifying the unit of analysis. In this study, the researcher decided to limit the unit of analysis to the academics and academic leadership at UKZN; the individuals or groups who would have experienced the phenomena under study (Creswell and Clark, 2018:269). Purposive sampling relies on the researcher’s judgement on what sample population should be selected for the study (Nkatini, 2005:39). Purposive sampling is effective where research is required to study information within a particular target group (Stockemer et al., 2019:63). The researcher identified academics and academic leadership, who have oversight of third stream income activities and relevant support functions to participate in individual and focus group interviews. This information was obtained from the UKZN website, which was structured

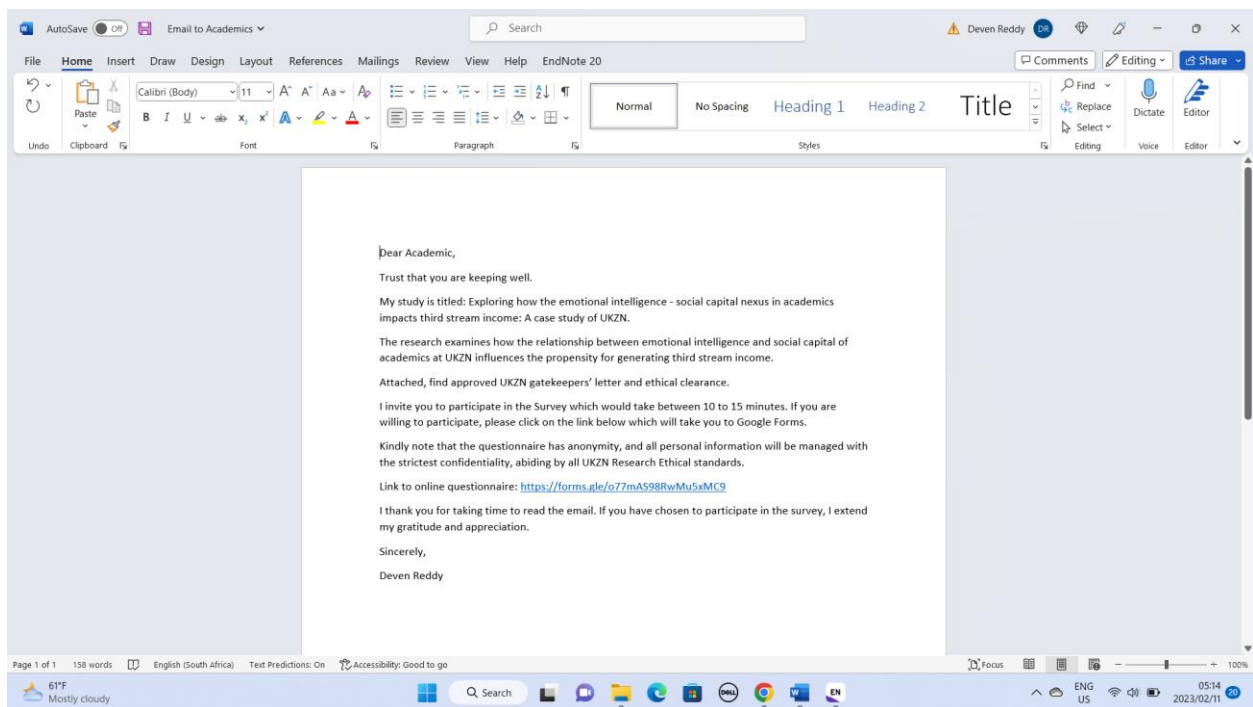
and categorised according to the functions of the university that included academic leadership in schools, colleges, departments, and professional services.

The researcher then developed a list of relevant executives in senior and middle leadership who would have knowledge and experience working with third stream income activities at UKZN and approached them through formal electronic mail communication. In addition, stratified sampling was used with a sample of leaders chosen for the individual interviews, and a larger sample of middle leadership was invited to participate in the focus group interviews. Stratified sampling considers a population that is stratified or separated into several non-overlapping groups of subpopulations or strata (Cohen, Manion and Morrison, 2007: 111). In the stratified approach, a sample is selected from each of the groupings or strata, and this could take the form of a simple random sample method of selection (Kothari, 2004:16).

The sampling technique chosen to collect the quantitative data using the online questionnaire placed on the notice system used random and probability sampling. Probability sampling is based on random choice and the item of choice may be either restricted or unrestricted. This means that when each item is drawn from the sample population under study using a simple random technique, the sample is termed an “unrestricted sample” and all other forms of the sample are termed “restricted sample” and they are considered to employ complex random sampling techniques such as cluster, stratified and systematic sampling techniques (Kothari, 2004:58). When the questionnaire was placed on the notice system, it used probability sampling but also randomness. Simple random sampling is also defined as chance sampling or probability sampling, where every item in the population has the same opportunity to be selected from the population for each of the chosen samples (Kothari, 2004:15). A random number table can also be used to select an unbiased approach to choosing items from the sample population (Kothari, 2004:15).

The questionnaire used for the quantitative data collection was initially placed on the UKZN notice system, which had the instruction to be only completed by academics.

*Figure 4. 3 Invitation to academics to participate in online questionnaire*



The academics included all full-time, contract and honorary academic staff across UKZN, from lecturer through to professor levels. Contract and honorary academic staff were included because they are part of the UKZN academic community, employed in schools and have a close proximal network relationship with permanent staff. The contract and honorary academic staff have limited contractual conditions with UKZN, thus allowing them time to participate in third stream income activities and the private remunerative work policy does not limit how many hours these academics may engage in private work as opposed to the eight hours per week that is prescribed for full-time UKZN academic staff.

Academics and academic leaders relevant to third stream income support formed part of the sample of the study to understand their understanding of how the emotional intelligence – social capital nexus impacted their attitudes towards third stream income generation at UKZN. Academic leadership at UKZN was relevant because their role at the university is to encourage, participate, manage and support academics in third stream income activities. Academic leaders within the professional services at UKZN enable and facilitate third stream income generation by providing access to resources and support in third stream income initiatives such as supply chain, finance, facilities, marketing and technology transfer. The sample size for the qualitative part of the study was 13 interviews and five (5) focus groups. Only two focus groups were conducted, the first at the Pietermaritzburg campus and the other at the Westville campus. The planned focus group at

Howard College did not materialise because of inclement weather and the planned focus groups at Edgewood College and Medical School did not take place due to respondents' work commitments. Two participants from Edgewood College indicated that they would be willing to take part in the interview but were available at different times and they were accommodated.

#### **4.5 Literature review approach**

The literature review chapter explored an empirical enquiry into how emotional intelligence and social capital theory impact academics attitudes towards third stream income generation. The literature review was segmented into four parts, looking at the context influencing third stream income, the nature and models of academic participation in third stream income, the impact of emotional intelligence on the creation of social capital, and the contribution of social capital to third stream income generation. The literature looked at universities within the context of the knowledge economy and the impact of macro, micro and meso factors on the creation of social capital by university academics in income generating activities. Integration of literature, theoretical arguments and documents available in the public domain such as annual reviews, strategies and reports were used to build a holistic case study methodology. The literature review adopted a stratified approach to exploring the research phenomenon from an international, national and institutional perspective, showing the relevance of the phenomenon and the contribution of the study within the global context. The researcher conducted an extensive literature review, which informed the design of the qualitative and quantitative instruments for the study.

A research plan was developed to conduct the literature review and a spreadsheet with the three main concepts of the study, namely emotional intelligence, social capital and third stream income, as the main headings were compiled. The researcher found that the concept of third stream income was referred to in some publications as third mission and this was substituted when researching publications in foreign countries. To refine the literature search, the researcher compiled a list of experts and prominent researchers on each of the topics of social capital, emotional intelligence and third stream income.

#### **4.6 Data collection methods**

##### **4.6.1 Qualitative data collection**

A qualitative approach to research seeks to interpret observational data, research opinions, and attitudes of the subjects under study. The purpose of qualitative research is to gather in-depth information by using several different information gathering techniques. In qualitative research,

information gathering instruments are used to collect information regarding the subjects' opinions, perceptions, and feelings (Cohen, Manion and Morrison, 2007:172). The qualitative data collection instruments included in this study were interviews and focus group studies. These instruments help researchers understand how the subjects under study function in their natural settings and qualitative researchers use research instruments to collect data, decipher meaning by using theories and contribute to the development of theories (Stockemer et al., 2019:9). The desktop research of the emotional intelligence theory of Goleman, Boyatzis, and McKee (2002) and the three dimensional model of Napahiet and Ghosal (1998) was used to inform the construction of the individual and focus group interview schedules. The topic, research objectives and research questions formed a frame of reference used to design the research questions. The researcher then compiled a list of questions that were included in the qualitative instruments. All questions were analysed in relation to the topic, research objective and research questions, and semi structured individual and focus group questions were formulated. The researcher was constantly aware that the qualitative instruments should be simple, clear, and unambiguous to ensure that the participants were able to understand and interpret questions with specific reference to their experience at UKZN. The researcher first worked with the interview questions, as he felt that these would need to be designed for the academics and management that support third stream income at the institution and must be relevant to their involvement in third stream income. The questions were designed to extract the opinions and experiences of participants with emotional intelligence and social capital in relation to attitudes towards third stream income generation at UKZN. The questions were then evaluated according to relevance, importance and category and organised under three headings: emotional intelligence, social capital and third stream income. The researcher then applied for ethical clearance for the interview schedule and focus group questions.

The questions with individual concepts were administered first to allow the respondent to build confidence in understanding the concept and then the more complex integrated questions followed, allowing the respondent to become familiar with each of the concepts. The interview questions were designed to extract holistic responses from the respondents, which allowed them to share their rich lived experiences at UKZN. The introductory question was designed to allow respondents to provide an overview of their experience as academics and leaders. The purpose of this was to make the respondent feel comfortable, allow them to create a mental picture of their lived experience at the university and help them to mentally recollect their experiences.

The researcher then worked on the focus group questions, bearing in mind that the group could comprise between five and ten participants. The researcher developed a barrel of focus group questions and followed the process used in the development of the interview questions, where they were checked against the framework of the topic, research objectives and research questions. An additional step was to ensure that questions from the interview were not duplicated. The questions were then reviewed in a few iterations and checked for relevance, grammar and understanding. The researcher then compared the interview schedule to the focus group interview and adjusted them to ensure value.

Semi structured interviews were conducted with participants that were identified through the purposive sampling process. The semi-structured interview questions allowed the researcher to probe and seek more relevant information and clarity. Semi structured interviews do not follow a standardised system and the interviewer is allowed more flexibility to use his or her judgement in probing and adding additional follow up questions to extract rich data (Kothari, 2004:98). Middle leadership at UKZN was invited to participate in the focus group interviews to establish academic middle leadership perspectives on how emotional intelligence impacts social capital when academics engage in third stream income generation at UKZN.

The researcher then applied for gatekeepers' approval from the UKZN Registrar to conduct the qualitative part of the study with UKZN's academic leadership. On receiving the gatekeeper's approval, the researcher applied for ethical clearance. Once ethical clearance was obtained, the researcher prepared to conduct the interviews and focus group at UKZN. This exercise took a protracted period as these individuals had responsible portfolios and were extremely busy. The approach used was to request meetings through their personal administrators.

The researcher then identified that the interviews should be planned for an hour, with one hour and fifteen minutes being the maximum time to engage with a respondent. This decision was based on the reasonable time afforded to respondents to participate in the interview and remain focused. The interviews were conducted first to help identify the individual leader's perspectives on the study and gain an understanding of what the individual leader's experiences and expectations were concerning emotional intelligence in building social capital towards attitudes on third stream income. The researcher looked for themes, constructed a rich picture of the UKZN third stream income ecosystem and conducted a gap analysis between the literature and the participants' views. The reason the interviews were conducted first was to establish outlier topics and themes so that the researcher would have time to identify the correct approach and better formulate probing

questions when conducting focus groups. The researcher scheduled interviews with respondents, giving them at least seven days' notice.

#### **4.6.2 Interviews**

The researcher used information provided on the UKZN website to develop a database of academic leadership. The researcher then identified leaders who were directly related to third stream income generation and developed a schedule identifying 10 leaders who were approached to participate in the interviews. In total, 13 interviews were conducted. Of the 13 interviews, three (3) of the participants were middle leadership, and part of the focus groups. Only one participant from Howard College agreed to participate in the focus group. Two Edgewood campus participants indicated that they were available and willing to participate in an interview, but at different times on the same day.

An email was crafted, inviting the identified academic leaders to participate in the interviews. The email contained the UKZN approved gatekeepers' letter and ethical clearance approval letter for the study. The ten leaders who were invited to participate in the study were interviewed. Three of the interview participants requested that the date and time for the interviews be rescheduled and one postponed the date. The interviews were rescheduled because of student unrest and work commitments. The university shut down for four weeks and the university's academic calendar had to be revised to ensure that the university was on track to meet all academic requirements.

In setting up the logistics for the interview, an hour was requested, although some interviews went longer than an hour and the participants were gracious enough to allow for the additional time. When conducting the interview, the researcher requested permission to record the interviews and informed participants that the recordings would be kept confidential and secure; their names and identities would not be used in the writeup. All the participants agreed for the interviews to be recorded.

At the start of each interview, the researcher requested that the consent form to participate in the study be signed. During the interview, the researcher introduced the topic of the study and explained to participants the three main concepts of the study, namely social capital, emotional intelligence and third stream income, and their definitions to help with orientation for the interviews. In cases where the respondents requested a definition and explanation of the concepts, they were provided. The researcher found it imperative that the participants understood the concepts in relation to the study, as the concepts of emotional intelligence and social capital have

been postulated by several theorists from different fields within economics and the social sciences, and it could not be taken for granted that all participants would have understood the concept of third stream income.

*Table 4. 2 Participants in qualitative research - interviews*

<b>Number</b>	<b>Designation</b>	<b>Date of Interview</b>	<b>Duration</b>	<b>Code</b>
<b>1</b>	Senior leadership	25/09/2018	1 hour 9 minutes	<b>P1 – I 1</b>
<b>2</b>	Senior leadership	26/10/2018	22 minutes	<b>P1 – I 2</b>
<b>3</b>	Executive leadership	21/11/2018	1 hour 38 minutes	<b>P1 – I 3</b>
<b>4</b>	Senior leadership	28/11/2018	54 minutes	<b>P1 – I 4</b>
<b>5</b>	Executive leadership	23/01/2019	1 hour 4 minutes	<b>P1 – I 5</b>
<b>6</b>	Executive leadership	5/02/2019	50 minutes	<b>P1 – I 6</b>
<b>7</b>	Senior leadership	11/03/2019	39 minutes	P1 – I 7
<b>8</b>	Executive leadership	6/05/2019	1 hour 3 minutes	P1 – I 8
<b>9</b>	Middle leadership	19/08/2019	37 minutes	P1 – I 9
<b>10</b>	Middle leadership	4/11/2019	1 hour 3 minutes	P1 – I 10
<b>11</b>	Middle leadership	3/3/2020	57 minutes	P1 – I 11
<b>12</b>	Middle leadership	3/3/2020	1 hour 5 minutes	P1 – I 12
<b>13</b>	Middle Leadership	10/03/2020		P1 – I 13

*Table 4. 3 Participants in qualitative research: focus group interviews*

<b>Number</b>	<b>Designation</b>	<b>Date of Interview</b>	<b>Venue</b>	<b>Duration</b>	<b>Code</b>
<b>14</b>	Middle leadership	31/10/2019	Vice-Chancellors Dining Room (PMB Campus)	59 minutes	<b>P1 – FG 1</b>
<b>15</b>	Middle leadership	31/10/2019	Vice-Chancellors Dining Room (PMB Campus)	59 minutes	<b>P2 – FG 1</b>
<b>16</b>	Middle leadership	31/10/2019	Vice-Chancellors Dining Room (PMB Campus)	59 minutes	<b>P3 – FG 1</b>
<b>17</b>	Middle leadership	31/10/2019	Vice-Chancellors Dining Room (PMB Campus)	59 minutes	<b>P4 – FG 1</b>
<b>18</b>	Middle leadership	6/11/2019	Main Boardroom: School of Chemistry and Physics	1 hour 23 minutes	<b>P1 – FG 2</b>
<b>19</b>	Middle leadership	6/11/2019	Main Boardroom: School of Chemistry and Physics	1 hour 23 minutes	<b>P2 – FG 2</b>

<b>Number</b>	<b>Designation</b>	<b>Date of Interview</b>	<b>Venue</b>	<b>Duration</b>	<b>Code</b>
<b>20</b>	Middle leadership	6/11/2019	Main Boardroom: School of Chemistry and Physics	1 hour 23 minutes	<b>P3 – FG 2</b>
<b>21</b>	Middle leadership	6/11/2019	Main Boardroom: School of Chemistry and Physics	1 hour 23 minutes	<b>P4 – FG 2</b>
<b>22</b>	Middle leadership	6/11/2019	Main Boardroom: School of Chemistry and Physics	1 hour 23 minutes	<b>P5 – FG 2</b>

#### **4.6.3 Focus groups**

The focus group interviews were targeted at middle leadership and five focus groups, one group per campus, were planned. Middle leadership in this study comprises academic leaders teaching and learning, academic leaders research, cluster leaders and heads of academic departments (UKZN, 2023). However, due to some middle leadership not being available, only two focus groups were conducted, one at the Pietermaritzburg campus and the other at the Westville campus. The researcher compiled a database of middle leadership, which was extracted from the UKZN website.

An email was crafted and sent to all middle leadership whose details were on the website, inviting them to participate in the focus group interviews. A total of 155 emails were sent. The researcher had planned to host focus groups at all five campuses (Edgewood Campus, Howard Campus, Medical School, Pietermaritzburg Campus, and Westville Campus). The response rate to participate in the focus groups was poor and the researcher emailed the invitation for a second time to UKZN's middle leadership, which yielded a poor response. Two focus group interviews were conducted, one on the Pietermaritzburg Campus and the second on the Westville Campus.

Four middle leaders participated at the Pietermaritzburg campus. The researcher presented the participants with the consent form and explained that all the identities will remain confidential and all recordings and transcripts will be managed with the highest level of safety and confidentiality. The researcher introduced the topic and provided an overview of what the research intended to explore. The participants were asked if they understood the concepts of emotional intelligence, social capital, and third stream income. The respondents advised that they did but requested that the researcher provide the definitions. The researcher then proceeded to introduce the focus group questions. The participants engaged eagerly and freely with the questions and the discussions provided rich insight as the participants came from different schools and fields of expertise. During the focus group interview, some participants became quite emotional and expressed their frustrations, anger and disillusionment with the system and some of the decisions taken by the executive and senior leadership of UKZN. The researcher allowed the middle leadership to express their points of view without engaging in personal attacks on individuals but tactfully reverted the discussions to the relevance of the focus group questions. The researcher took notes of responses that he felt would be relevant to the study and guide him when conducting the write-up of the analysis chapter. The researcher used probing questions to ensure that he obtained clarity and depth in the responses.

#### **4.7 Quantitative data collection**

After approval of the questionnaire by the university's ethics committee, it was developed as a digital questionnaire using Google Forms. The researcher investigated a few online platforms such as Survey Monkey, MS Pro and Google Forms and used criteria such as cost, accessibility, level of complexity, ability to transfer data into Excel, aesthetics, features, and support before deciding on Google Forms. The online questionnaire was developed on Google Forms.

Ethical clearance was obtained from UKZN on the condition that the questionnaire be posted on the UKZN Notice system and that the researcher could not use the email contact list on the UKZN system to contact respondents. The researcher engaged with the UKZN Corporate Relations Division and completed the university process to have the questionnaire placed on UKZN's Notice system under the section titled "research". The topic, a short description of the research, and the link to the research questionnaire on Google Forms were included in the email. The approved gatekeeper's letter, ethical clearance and consent form were attached to the email. The requests to participate in the study were posted eight times on the UKZN Notice system and seven responses were received. The researcher then consulted with his supervisors, and it was decided that a new

approach would be applied to increase the response rate. The researcher proposed to the supervisors that he had compiled a database of academics from the UKZN website, which was in the public domain when he collected data for the qualitative part of the study, and he suggested that he would update the database with the current information of academics, inviting them to participate in the study. The researcher was advised that he is required to obtain permission from the research ethics office at UKZN. The researcher wrote to the Chair of the Research Ethics Committee at UKZN and was advised that he would need to obtain permission from the Registrar. The researcher then wrote to the UKZN Registrar and obtained permission to send emails to UKZN academics using his student email account. The researcher then sent out 1243 emails to the database of UKZN academics that was compiled after obtaining permission. A total of 100 academics responded to the emails.

#### **4.7.1 Pilot study**

A pilot study was conducted prior to the questionnaire being placed on the UKZN Notice system to establish how effective the survey design was in collecting relevant data to inform the study. The invitation email to participate in the pilot survey was sent on 12 January 2021. It was also used to determine if the survey would close the gaps in data collection that were not obtained from the qualitative part of the study. The pilot study was also used to determine if the targeted audience understood the level of questions and whether the survey was unambiguous. A sample of five participants was chosen using purposive sampling techniques, which identified three academics, one school operation's manager and one manager from the professional services sector. The academics were chosen from three schools, which included the School of Engineering, the School of Education and the Graduate School of Business and Leadership. The respondents from the professional services sector included one school operation's manager and another from an income-generating unit of the university. All the individuals who were contacted were willing to take part in the pilot study and indicated that the topic and summary of the study were relevant and interesting. The pilot respondents used the link provided to access the survey on Google Forms and all the academics completed the survey questionnaire. The respondents were then contacted telephonically to establish their experiences in completing the survey questionnaire. All the respondents provided positive feedback and stated that the questions were clear, easily understood, and relevant to the research topic. They advised that the technical set up of the questionnaire did not pose any problems and reported that the questionnaire took between twenty and thirty minutes to complete, as some of the questions required more time to think about the responses.

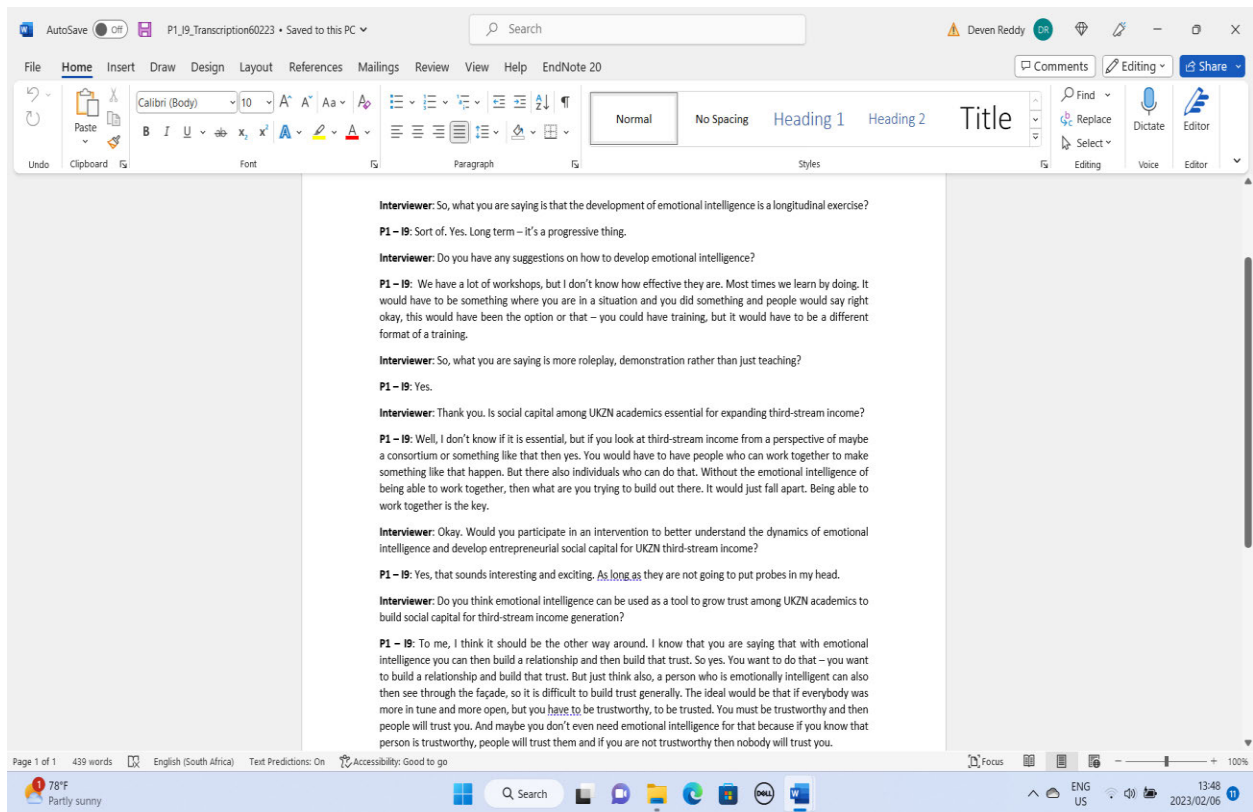
*Figure 4. 4 Screen shot of analysis of pilot questionnaire*

#### 4.8 Qualitative data analysis

The individual interviews and focus group discussions were transcribed by a consultant, and the researcher then reviewed the transcripts and highlighted the sections that were not clear. The researcher then listened to the transcripts with headphones, which helped him to focus, follow the printed transcripts and make the necessary corrections. The transcripts were then read three times to get a sense of what the familiar themes were, and the researcher developed a paper-based diagram.

The researcher then carefully analysed the themes and subthemes and created a table of contents to organise the themes and subthemes. The researcher then went through each transcript and highlighted important and relevant quotations, transferred the quotes to the analysis chapter under the thematic headings and subheadings and arranged the quotations in a logical sequence. This took a few iterations and the researcher used schematic diagrams in a separate document to organise the topics and themes and kept version control of the changes. The researcher created a table and coded each of the respondents for the interview and focus group participants. The researcher then went through each of the transcripts, starting with the interviews and then the focus groups and analysed the participants' responses. The quotations were then placed under the relevant sections and analysed. In analysing the transcripts, the researcher used the data from the transcripts and the responses from participants' statements, which were organised into themes, to formulate the structure of the analysis chapter. The analysis chapter was shared with supervisors

on four occasions and the corrections and comments of the supervisors were considered in revising the analysis chapter. The researcher then went through the document and checked language, grammar and spelling ensuring that the anonymity of participants was protected and that the data provided was not diluted or distorted.



*Figure 4. 5 Screen shot of transcript*

#### 4.9 Quantitative data analysis

The data analysis involved the qualitative and quantitative analysis of the data that are attached in the appendices: the interview schedule (Appendix 5), the focus group schedule (Appendix 6) and the questionnaire (Appendix 12). Qualitative data was analysed by the researcher using a thematic approach. The empirical data obtained from the questionnaire was put through the Statistical Package for the Social Sciences (SPSS) version 26.0, producing data organised in a graphical and statistical format and analysed (IBM, 2021-12-07). The researcher conducted the analysis using descriptive and inferential statistics to produce results.

#### 4.10 Quantitative data analysis definitions

The following definitions are provided in this section to explain the use and purpose of conducting and analysing the quantitative data collected using the questionnaire.

#### **4.10.1 Descriptive statistics**

Descriptive statistics describe the organisation and summarisation of quantitative data. Descriptive statistics are useful as they summarise the results of an experiment, allowing for more constructive research that is more detailed after an analysis. Descriptive data analysis aims to examine the distribution of scores on each variable and determine whether the scores on the different variables are related to each other (Sekaran and Bougie, 2016:391). Univariate and bivariate analyses are most appropriate for descriptive statistics. Univariate analysis is concerned with measures of central tendency and dispersion. The most appropriate measure of central tendency for interval data is the mean and the most appropriate measure of dispersion for interval data is the standard deviation (Sekaran and Bougie, 2016:284). Bivariate analysis concerns the measurement of two variables at a time (Sekaran and Bougie, 2016:285). The researcher used the statistical data to analyse the results and evaluated the significant findings for the selected questions and the correlation when compared to other variables; for example, what was the statistical coefficient with respect to the respondents' indication of trust with respect to collaboration on third stream income; what was the mean score; and what was the correlation to the age, race or position in the institution (executive, senior or middle leadership).

#### **4.10.2 Inferential statistics**

Inferential statistics involve the process of generalisation and is defined as sampling statistics. Inferential statistics is predominantly related to solving two main types of problems, namely estimating population parameters and testing statistical hypotheses. Some pertinent statistical measures that are employed to summarise survey or research data are measures of central tendency, measurement of relationships, asymmetrical measurements, measurements of dispersion, but not limited to measuring other forms of measurements (Kothari, 2004:131).

#### **4.10.3 Data exploratory categorical data**

All the observed attributes are on ordinal and nominal scales for this study. A nominal scale allows a researcher to allocate subjects to each category or identified group under the research study. An example would be the identification of gender, which could be male, female, or other, which can be further defined and each of these groups can be assigned a code in a numerical or alpha numeric format. Coding is used to determine the ease of access to data and the identification of non-overlapping or mutually exclusive instances. This allows the researcher to collate information using nominal scaling and represent it as percentages or frequencies (Sekaran and Bougie, 2016:207).

The ordinal scale categorises the variables in the research study, allowing for the distinction of differences among the categories and for the categories to be ranked in a meaningful and orderly way through preferential ordering. An example can be from best to worst or first to last, numbered sequentially. (Sekaran and Bougie, 2016:208). A nominal scale allows a researcher to allocate subjects to each category or identified group under the research study. The study constitutes 100 samples. The aim is to understand the responses per age, gender qualification and all other responses based on the questionnaire.

#### **4.10.4 Interval scale**

An interval scale, also known as an equal-interval scale, displays the numerically equal distance on the scale being measured, which is representative of the equality of values of the characteristics that are being measured. The nominal scale permits only the qualitative distinguishing features of groups by classifying them into mutually exclusive and collectively exhaustive groups, while the ordinal scale allows the ranking of preferences. The interval scale allows the comparison of differences between the items. This means that the variances between two values on a scale are identical to the variances between any other two neighbouring values on the same scale. A medical thermometer is an appropriate example of an interval-scale instrument (Sekaran and Bougie, 2016:209).

#### **4.10.5 Ratio**

The ratio scale dispels the disadvantage of the subjective original point of the interval scale in that it has a definite zero point, which is a decisive measurement. A ratio measures more than just the magnitude of the difference between two points of measurement on a scale; it also measures the proportions of differences, which is an accurate weighting balance and a good example of a ratio scale. As an example, a person weighing 250 pounds is two times heavier than an individual weighing 125 pounds (Sekaran and Bougie, 2016:209).

#### **4.10.6 Graphs**

##### **4.10.6.1 Discrete data – bar charts**

Bar charts or histograms can be used to visually display frequencies (or percentages) of distribution to aid in interpreting the data. These can be displayed as horizontal or vertical bars with varying degrees of complexity. All the bars are the same width, with the length corresponding to the frequency (or percentage) (Creswell and Clark, 2018:280).

#### 4.10.6.2 Discrete data – pie charts

A pie chart is represented by a circle and is used to represent the frequency of distribution by dividing the circle into the statistically calculated proportion of a variable. A pie chart is generally used when a few variables are being analysed and it is difficult to decipher when there are many variables. A shortcoming of a pie chart is that it is not easy to compare data across different pie charts (Stockemer et al., 2019:80).

#### 4.10.6.3 Cross tabulations

Cross tabulations are data resulting from observations made on two separate categorical variables (bivariate) presented in a table known as a two-way frequency table. This can also be referred to as a contingency table, which verifies an association between the variables. Cross tabulations can be presented in tabular form using bar charts and pie charts (Creswell and Clark, 2018: 355).

#### 4.10.6.4 Correlation

A correlation or regression analysis is a technique that can be used to display the relationships between variables graphically. This can be done with two or more variables to establish a predictive model or can be used as a decision-making tool. A bivariate relationship is one where two related variables vary together. In statistical terms, they are identified as variable  $y$ , which is the dependent variable and variable  $x$ , which is the independent variable, and they can be plotted on a graph (Stockemer et al., 2019:133).

#### 4.10.6.5 Regression analysis

Regression analysis is employed when an independent variable is hypothesised to impact a dependent variable. The data is then plotted on a graph to obtain relationships between the variables (Sekaran and Bougie, 2016:312).

#### 4.10.6.6 Multiple regression analysis

Multiple regression analysis is like simple regression analysis; the only difference is that more than one independent variable is used to explain the change in the dependent variable. Multiple regression analysis, also known as the multivariate technique, is common in business research and is used by a researcher in the early part of the research to develop a conceptual model. It is used to objectively determine the intensity and character of the relationship between the independent variables and the dependent variables, with the regression coefficients reflecting the degree of importance of each independent variable in predicting the dependent variable. An example is if

the researcher feels that the variation in performance can be explained by four independent variables: salary, complexity of work, supervisor, and institutional culture. When these factors are regressed against the dependent variable, the size of the individual regression coefficients reflects what effect each unit in the independent variables will have on the dependent variable, given that all other independent variables are constant (Sekaran and Bougie, 2016:314).

## **4.11 Statistical software**

### **4.11.1 SPSS Statistics 26.0**

The programme originally known as Statistical Package in Social Sciences became known as SPSS Statistics, and after it became an IBM company, the name changed to IBM SPSS Statistics. The statistics software works with several computer files: data, output, and syntax files. The files that the user intends to analyse are contained in data files. The output files support the creation of graphical representations such as graphs, tables, and charts. The instructions are sent to the software by the syntax files, which provide the operational instructions (IMB, 2021-12-07).

## **4.12 Factor analysis**

This is when quantitative data is presented as factors, which are combined similarly to the themes from the qualitative data (Creswell and Clark, 2018:337)

### **4.12.1 Kaiser–Meyer–Olkin (KMO)**

KMO is used to determine sampling adequacy. The KMO calculates individual or multivariate variables, which are representative of the ratio of the squared correlation between variables to the squared partial correlation between variables that might be caused by underlying factors. KMO statistics are dispersed between 0 and 1. A value of 0 is representative of the sum of partial correlations being greater relative to the sum of correlations, which is representative of the diffusion of the pattern of correlation. High values (close to 1.0) generally indicate that factor analysis may be useful with your data. If the value is less than 0.50, the results of the factor analysis probably would not be especially useful (Shrestha, 2021:6).

### **4.12.2 Bartlett**

Bartlett's test of sphericity tests whether the variance of the correlation matrix is in proportion to the identity matrix under the null hypothesis  $H_0$ . The alternative is where the hypothesis,  $H_1$  covariance is zero and the variances on the diagonal are equal. This would show that the variables

are not related and are not suitable for structural detection. Factor analysis may be useful with the data if the significance level is less than 0.05 (Shrestha, 2021:6).

### 4.12.3 Varimax and Kaiser

#### 4.12.3.1 Factor analysis rotation

Factors that are extracted may be difficult to interpret because of the cross-loading, where a number of factors correlate with a number of variables. The two methods of factor rotation are orthogonal (uncorrelated) or oblique (correlated) factor solutions. Available methods are varimax, direct oblimin, quartimax and equamax (Shrestha, 2021:7).

#### 4.12.3.2 Pearson correlation

The Pearson correlation is a statistical term describing the degree to which two variables move in coordination with one another. If the two variables move in the same direction, then those variables are said to have a positive correlation. If they move in opposite directions, then they have a negative correlation. The correlation estimate is the number that lies between -1 and 1, inclusive of the bounds. The pairwise correlation is defined as follows:

$$\rho_{xy} = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{(\sum_{i=1}^n (x_i - \bar{x})^2)(\sum_{i=1}^n (y_i - \bar{y})^2)}}$$

All the variables are correlated; hence, exploratory factor analysis is the appropriate technique to understand the linear combination of the responses from the questionnaires. Secondly, the determinant of the Pearson pairwise correlation is greater than zero, namely,  $\det(\text{cor}(x)) > 0 = 3.274645e - 22$ . Thus, the computed correlation is the positive definite matrix (*see correlation*).

## 4.13 Hypothesis tests: p-values and statistical significance

### 4.13.1 Inferential statistical analysis

Inferential statistical analysis is concerned with the testing of hypotheses and estimations. Primary data was collated and analysed and comments and concluding discussions were made thereafter based on the results obtained. Inferential statistical analysis allows the researcher to draw conclusions about populations from sample data. The most important application in the social sciences of the statistical theory around sampling distributions has been significance testing or statistical hypothesis testing. The researcher is interested in the outcome of a study on the impact of service delivery.

The traditional approach to reporting a result requires a statement of statistical significance. A **p-value** is generated from a **test statistic**. A significant result is indicated with " $p < 0.05$ ". The choice of the value 0.05 as the level of significance is, in fact, totally arbitrary but has become enshrined as a standard in statistics.

#### 4.13.2 Inferential statistical analysis chi-square test

A chi-square test is a statistical hypothesis test in which a chi-square distribution of the test statistic, assuming a null hypothesis, is used to approximate the chi-square distribution, making the sample size sufficient. A Chi-square test compares the actual value in a field in comparison to the random distributive value between other fields. This means that the process compares the actual value in each field with the predicted value, giving the probability of the variable an equal chance to appear in each of the fields (Stockemer et al., 2019:126). A chi-square test establishes significant differences between the proportions of two or more groups.

**The formula for a chi-square test is:**

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

There are **two applications** of the chi-square test:

#### 4.13.3 Chi-square goodness of fit

When variables attain an ordinal change or a nominal change, allowing the technique to attain the  $p$  highest eigenvalues of the correlation between the changed values, where  $p$  denotes the number of dimensions that are identified in the solution, the total of the eigenvalues is the goodness of fit index, which is the total variance change in the variables under study (Kaplan, 2004:55). Under the null hypothesis, the assumption is that all responses have an equal chance of being selected. The univariate test determines whether variables are selected more or less frequently than others. The number of degrees of freedom calculated to find the critical value in the Chi statistical table and the number of degrees of freedom in the data are determined by the number of cells in the cross-tabulated table. This total minus the number of parameters in the model provides the degrees of freedom in the goodness of fit statistic (Kaplan, 2004:142).

#### 4.13.4 Chi-square test of independence

This is where the change in each dimension for each variable individually is equal to the squared factor of loading. The factor of loading is the correlation between the changed variable and the principal variable in a particular dimension (Kaplan, 2004:55). Used on cross-tabulations to see whether a significant relationship exists between the two variables represented in the cross-tabulation. In the event that the minimum expected frequency is not met, the Fisher's exact test will be used.

Statistical inference is divided into two areas namely, hypothesis testing and estimation. In this case, we will invoke hypothesis testing because we want to test whether the questionnaires are significant or not using both the p-value and test statistic with the aid of the chi-square distribution. The steps for the hypothesis are as follows:

- **Step 1 Set up hypotheses and determine the level of significance.**

H<sub>0</sub>: There is no relationship between the variables.

H<sub>1</sub>: There is a relationship between the variables.

$$\alpha = 0.05$$

- **Step 2 Select the appropriate test statistic.**

$$X_{\gamma}^2 = \sum_{i,j} \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Where:

$O_{ij}$ -Observed frequency,  $E_{ij}$ -expected frequency and  $\gamma$  –are the degrees of freedom.

- **Step 3 Set up decision rule.**

Reject the null hypothesis if the p-value is above 5% or the computed test statistic exceeds the assumed statistics.

- **Step 4 Conclusion.**

Thus, the questionnaires are significant as the null hypothesis has been rejected or otherwise.

All the explanatory variables are significant beside the three attributes.

The level of significance is 5% and the null hypothesis for large values are rejected.

#### 4.14 SPSS Statistics 26.0 (Released August 2018)

The programme used in this study, originally known as SPSS became known as SPSS Statistics, and after it became an IBM company, the name changed to IBM SPSS Statistics. The original name was Statistical Package in Social Sciences. The statistics software works with a number of computer files: data, output, and syntax files. The files that the user intends to analyse are contained in data files. The output files support the creation of graphical representations such as graphs, tables, and charts. The instructions are sent to the software by the syntax files, which provide the operational instructions (IBM, 2021-12-07).

#### 4.15 RStudio

RStudio is an integrated development environment that uses open source and supports direct code execution using software to produce statistical findings and present them in a graphical format. It is supported by the R Core Team and the R Foundation for Statistical Computing. It allows users to develop code using functions of the R language.

#### 4.16 Reliability

The subsequent statistics will be used to test whether the responses are reliable or not.

##### 4.16.1 Cronbach's alpha

Cronbach alpha's is defined as a reliability coefficient, which indicates how well the subjects in a set of data are positively correlated to each other. Cronbach's alpha was calculated in terms of the average intercorrelations among items used to measure the concept in the research. The definition states that the closer Cronbach's alpha is to 1, the greater the value of reliability and internal consistency (Sekaran and Bougie, 2016:289).

Cronbach's Alpha is calculated as follows:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{\sigma} + \gamma \cdot \bar{c}}$$

**Where:**

N- Total number of observations

$\bar{c}$ - Average of the covariance

$\bar{\sigma}$ -Average of the variances

$\gamma$  -Degrees of freedom (N-1)

*Note that alpha lies between 0 and 1.*

For instance, the subsequent covariance matrix can be used to illustrate the computation of the reliability coefficient.

$$\begin{array}{ccc} \sigma_{11} & \sigma_{12} & \sigma_{13} \\ \sigma_{21} & \sigma_{22} & \sigma_{23} \\ \sigma_{31} & \sigma_{32} & \sigma_{33} \end{array}$$

Here,  $N=3$ , and degrees of freedom=2

$$\bar{c} = \frac{1}{N}$$

$$\bar{\sigma} = \frac{1}{N} \cdot \sum_{i=j} \sigma_{ij}$$

*Table 4. 4 Interpretation of the reliability coefficient*

Source: <https://www.statisticshowto.com>

Intervals for reliability coefficients	Interpretation
$\alpha = 0$	<i>No reliability</i>
$0 < \alpha < 0.5$	<i>Unacceptable reliability</i>
$0.5 \leq \alpha < 0.6$	<i>Poor reliability</i>
$0.6 \leq \alpha < 0.7$	<i>Questionable reliability</i>
$0.7 \leq \alpha < 0.8$	<i>Acceptable reliability</i>
$0.8 \leq \alpha < 0.9$	<i>Good reliability</i>
$0.9 \leq \alpha < 1$	<i>Excellent reliability</i>
$\alpha = 1$	<i>Perfect reliability</i>

## 4.17 Factor analysis

### 4.17.1 Kaiser–Meyer–Olkin (KMO)

KMO was used to determine sampling adequacy. KMO calculates individual or multivariate variables, which are representative of the ratio of the squared correlation between variables to the

squared partial correlation between variables, which might be caused by underlying factors. KMO statistics are dispersed between 0 and 1. A value of 0 is representative of the sum of partial correlations being greater relative to the sum of correlations, which is representative of the diffusion of the pattern of correlation. High values (close to 1.0) indicate that factor analysis may be useful with the data. If the value is less than 0.50, the results of the factor analysis probably will not be particularly useful (Shrestha, 2021:6).

#### 4.17.2 Bartlett

Bartlett's test of sphericity tests the null hypothesis ( $H_0$ ) of whether the variance of the correlation matrix is in proportion to the identity matrix.

The alternative is where the hypothesis,  $H_1$  covariance is zero and the variances on the diagonal are equal. This would show that the variables are not related and not suitable for structural detection. P-values less than 0.05 of the significance level indicate that the factor analysis may be useful with the data (Shrestha, 2021:6). The test was conducted using:

Null hypothesis: Data is appropriate for exploratory factor analysis.

Alternative Hypothesis: Data is not appropriate for exploratory factor analysis.

The computed p-value =  $2.612925e-134 < 0.05$ , implies that we cannot reject the null hypothesis.

Conclusion: Factor analysis is the appropriate statistical technique.

##### 4.17.2.1 Varimax method

Varimax orthogonal factor rotation method minimises the number of variables that have high loadings on each factor. This method simplifies the interpretation of the factors (Shrestha, 2021:4).

##### 4.17.2.2 Direct oblimin method

A method for oblique (non-orthogonal) rotation. When delta equals 0 (the default), solutions are most oblique. As delta becomes more negative, the factors become less oblique. To override the default delta of 0, enter a number less than or equal to 0.8. (IBM, 2021-12-07).

##### 4.17.2.3 Quartimax method

A rotation method that minimises the number of factors needed to explain each variable. This method simplifies the interpretation of the observed variables (IBM, 2021-12-07).

#### 4.17.2.4 Equamax method

A rotation method that is a combination of the varimax method, which simplifies the factors; and the quartimax method, which simplifies the variables. The number of variables that load highly on a factor and the number of factors needed to explain a variable are minimised (IBM, 2021-12-07).

#### 4.17.2.5 Promax rotation

An oblique rotation, which allows factors to be correlated. This rotation can be calculated more quickly than a direct oblique rotation, so it is useful for large datasets (IBM, 2021-12-07). Allows you to include output on the rotated solution as well as loading plots for the first two or three factors.

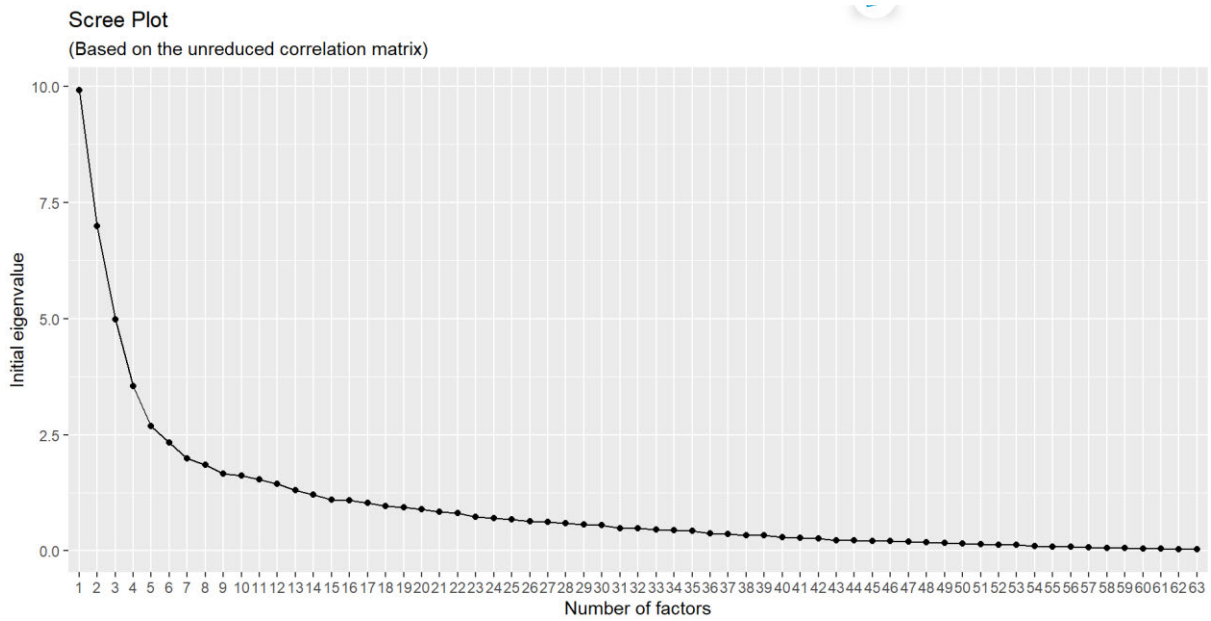
#### 4.17.2.6 Rotated solution

A rotation method must be selected to obtain a rotated solution. For orthogonal rotations, the rotated pattern matrix and factor transformation matrix are displayed. For oblique rotations, the pattern, structure, and factor correlation matrices are displayed (IBM, 2021-12-07).

### 4.18 Factor loading plot

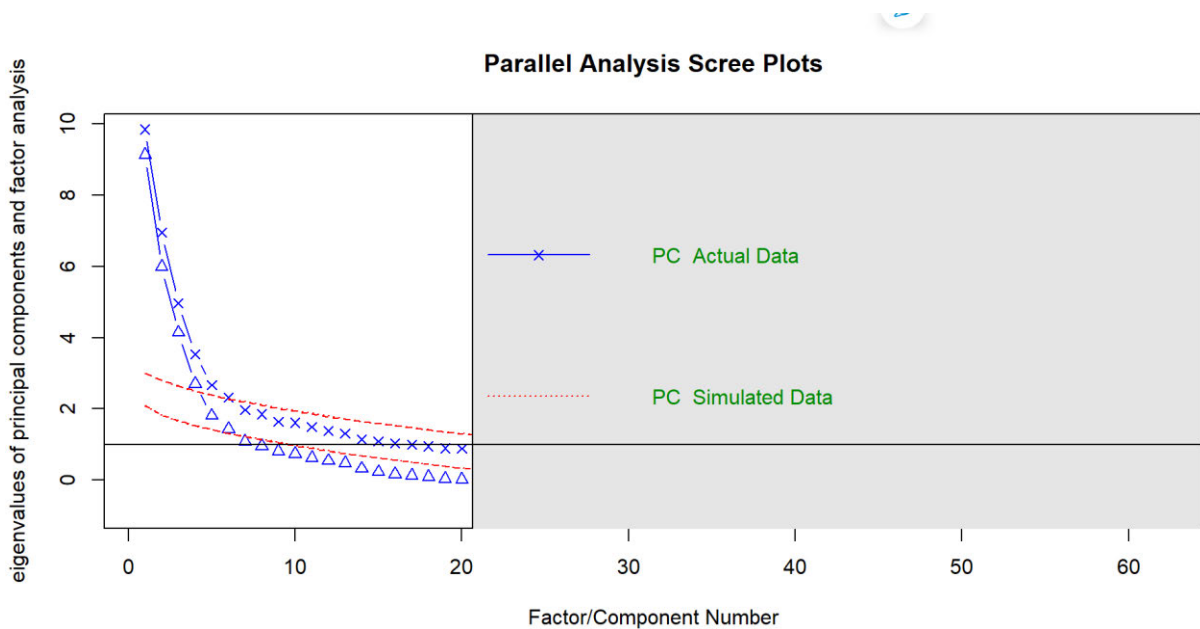
Three-dimensional factor loading plot of the first three factors. For a two-factor solution, a two-dimensional plot is shown. The plot is not displayed if only one factor is extracted. Plots display rotated solutions if rotation is requested.

## Scree plot



*Figure 4. 6 Scree plot*

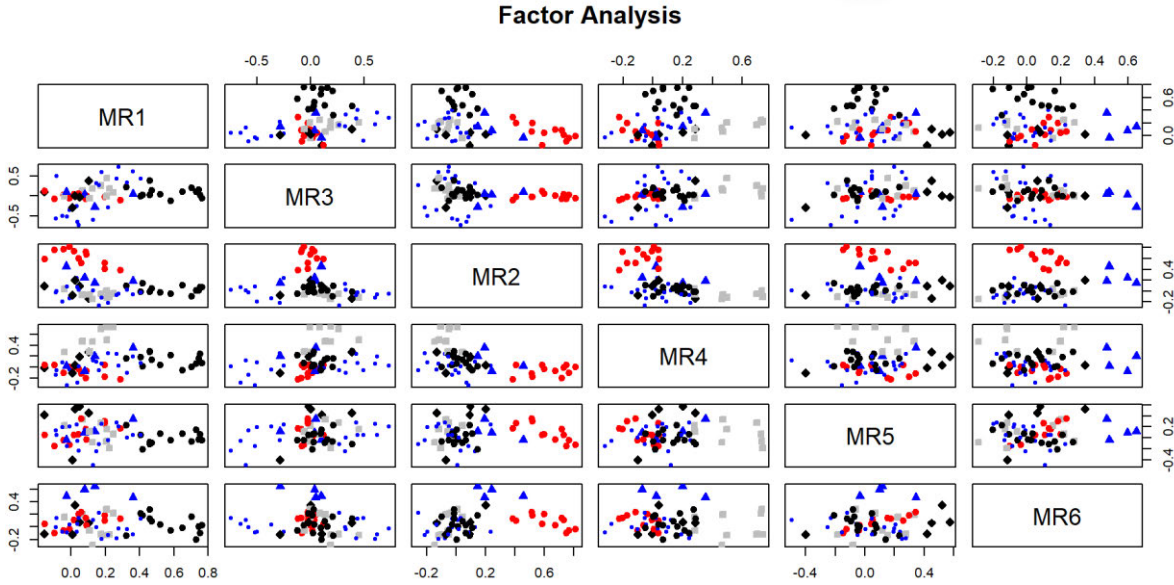
A scree plot has been used to select the optimal number of factors. The change in the above trend is at 6 (number of factors). Even, parallel analysis suggests that the number of factors = 6 and the number of components = 5. The subsequent figure illustrates the region with a good choice of number of factors.



*Figure 4. 7 Parallel analysis scree plots*

The following criteria must be met to determine the optimal number of factors in the above figure: the eigenvalues must be above 1 and the point of inflection must be above the PC-simulated data. Thus, 3 to 4 factors are a good choice.

**7.18.1 Factor loading plot**



*Figure 4. 8 Factor loading plot*

A graphical representation of the 6 varimax factors from the collected data using a plot (Figure 4.8). Factors were transformed into a varimax solution using the varimax function from the GPA rotation package. This is the visualisation of the six-factor loading to be combined to estimate these.

```
> vif(model.fa.score)
Factor1 Factor2 Factor3 Factor4 Factor5 Factor6
1.051714 1.098160 1.099294 1.025040 1.197686 1.021221
> |
```

A **rule of thumb** for interpreting the variance inflation factor:

- ✓ 1 = not correlated.
- ✓ Between 1 and 5 = moderately correlated.
- ✓ Greater than 5 = highly correlated.

For all factors, the VIF is greater than 1 and less than 5, translating to moderately correlated. All the explanatory variables used were correlated but did not cause the multicollinearity.

Moreover, a linear model was developed to check if the factor analysis is performing as per assumption. The data was divided into two sets: 70% (train) and 30% (test). Train data has been used to fit the model and test data was used to assess the model's performance. Therefore, if the average relative difference is less than 50%, it means that the model's performance is good.

## **4.19 Validity and reliability**

### **4.19.1 Qualitative and quantitative validity**

**Qualitative Validity:** The validity of qualitative research can produce trustworthiness through content developed by clear instrument design, producing clear descriptors for the sampling frame, defining related criteria by comparing tools and instruments between researchers and constructing validity using reflexive techniques. The researcher ensured that when focus groups and interviews were conducted, they followed a clear process to ensure that the information obtained was used in a consistent and reliable manner. The researcher used audio recordings to make sure that first-hand information was validated. Validation also allowed for data to be organised and classified, with similar research methods being conducted to extract information. The researcher ensured that when focus groups and interviews were conducted, they followed a clear process to ensure that the information obtained was used in a consistent and reliable manner. The researcher used audio recordings to make sure that firsthand information was validated. Validation allowed for the data to be organised and classified, with similar research methods being conducted to extract information.

Reliability and validity are interconnected in intricate ways. At times, the concepts can stand alone and have independent definitions, and on other occasions, they are interrelated. Validity is considered the more encompassing term, especially when a researcher considers the instrument. Reliability is a much simpler concept to understand as it measures consistency. If data values are not stable and consistent, then they are not reliable and, in turn, not valid (Creswell, 2012:159). In case studies, the research design must be firm and not lead to any bias and it must produce complete and accurate information. The research design in statistical studies, besides removing bias must allow for drawing inferences between cause and effect (Kothari, 2004:121). Validity measures indicate the degree to which the instrument measures what it is intended to measure. It is the extent to which the difference found in the measuring instrument reflects the actual difference between what is being tested. There are three types of validity: (i) content validity, (ii) criterion-related validity, and (iii) construct validity.

- (i) Content validity is the extent to which the measuring instrument provides sufficient coverage of the topic under study.
- (ii) Criterion-related validity is the ability to predict the outcome or estimate the existence of some condition. It shows the success measure of some empirical estimating purposes. The criteria must have relevance, freedom of bias, reliability and availability (Kothari, 2004:74).
- (iii) Construct validity establishes the correct measures for the study; internal validity embraces a causal relationship whereby conditions within a context lead to other conditions; and external validity creates the area where findings can be generalised (Yin, 2003:34).

In this study, the researcher took cognisance of all three forms of validity to ensure that the responses were accurately recorded and interpreted. The researcher ensured that the process of collecting data was transparent to prevent any bias. Quantitative validity is any instrument that measures what it sets out to measure; for example, if the intelligence test is developed to measure intelligence quotient, then that is what it needs to achieve and not any other variable (Pandey and Pandey, 2015:21).

#### **4.20 Ethical considerations**

The research proposal was successfully defended on 28 November 2017. The researcher then applied to the Registrar of UKZN to obtain the gatekeeper's permission to conduct the study and data collection at UKZN. The completed informed consent application submitted to the Registrar at UKZN for permission to conduct the qualitative part of the study was granted on 15 May 2018 and a gatekeeper's approval letter was obtained (Annexure 1). An application for ethical clearance was made to the UKZN's research office and ethical clearance was obtained after questions were addressed. The formal process of research ethics, required from the relevant research institution, is essential for the researcher to present the nature of study and credentials to obtain a legitimate ethical position (Cohen, Manion and Morrison, 2007:55).

The same process was repeated when the quantitative part of the study was conducted. Once the questionnaire was compiled and approved by the supervisors', informed consent was completed. The submission was then made to the UKZN's Ethics Committee to gain permission to administer an online questionnaire (Annexure 8). Permission was granted on the condition that the survey be placed on the UKZN internal notice system and that the UKZN email system not be used to obtain email addresses. The researcher placed the questionnaire on the UKZN Notice system and after

repeating the process a number of times, the response was extremely poor. The researcher wrote to the ethics committee, requesting to use the UKZN email system to distribute the questionnaire, inviting the target group to participate in the study. The Chair of the Ethics Committee requested that the researcher obtain permission from the registrar which was sent on 7 June 2021. The registrar granted the required permission.

The researcher used the university website to determine the participants who would be most relevant to third stream income initiatives and how it would be most relevant to conduct interviews and focus groups. The researcher also declared to participants that he is a consultant at the university, for those members who were not aware of it. The researcher also sent invitations to all middle leaders whose details were available on the UKZN website to prevent any bias. This method helped to manage any type of bias by being selective about which participants took part in the study.

The study was based on exploring how the social capital and emotional intelligence nexus in academics impacts attitudes towards third stream income generation at UKZN. The researcher was mindful that the study was conducted at one institution and that the confidentiality and anonymity of participants had to always be guarded. This was imperative, as the identification of participants making negative comments could be improper. The researcher took care to ensure the identities of the participants were not compromised by contacting the subjects directly and letting them decide if they wanted to get assistants to arrange the logistics of the interviews. The researcher is also a consultant to UKZN InQubate, the Technology Transfer Office at the university and always had to be mindful that he did not allow personal bias to influence his position and assessment of the situation. The researcher remained mindful to let the data present the facts and did not let subjective judgement creep into the study. The researcher also used his student email account for all communication with participants and administrators when conducting research-related matters.

The researcher engaged an independent scribe to reproduce the recorded information into a Word document. The contracted individual signed a contract of confidentiality, which explicitly requested that the individual handover all information to the researcher when the transcriptions were completed, and all recordings and transcriptions had to be deleted from all the transcriber's repositories once the work was handed over. The researcher used a code to identify all participants and no names or designations were used in the writeup of the study. The research design took cognisance of developing interview and focus group questionnaires to investigate the process of how network relations are built, related to personal and group characteristics, behaviour, and

personality traits, without requesting information about specific individuals or portfolios. The research instruments were designed not to delve into the intellectual property of academics related to third stream income but to investigate the process followed to solicit projects, the establishment of networks, and how networks are built and maintained.

#### **4.21 Summary**

The research methodology chapter was structured in line with a traditional research design and the first step was the qualitative data collection and analysis to inform the quantitative data. The two guiding frameworks of Maxwell's (2012) interactive model of research design and the four levels for developing a research study by Crotty (1998) formed the bedrock design of the chapter. The chapter paid particular attention to the pragmatist paradigm and explained how this paradigm was used to ensure that the researcher had a particular worldview. The researcher also detailed how the research data was collected and analysed. The latter part of the chapter provided a detailed account of all the statistical tools and techniques that were used to prepare, analyse, and present the data. The chapter also covered how the researcher followed research and ethical principles in the collection of the data.

## **CHAPTER 5: CONTEXT OF THE UNIVERSITY OF KWAZULU-NATAL**

### **5.1 Introduction**

The emotional intelligence and social capital nexus introduced in Chapter 3 will be used to highlight opportunities relevant to third stream income generation at UKZN. This chapter explores the context of UKZN, starting with a historical overview and leading to factors that impact the emotional intelligence and social capital nexus in university. The chapter introduces the model that was designed to illustrate the goals for the UKZN Strategic Plan (2017 - 2021). The chapter discusses how the REACH<sup>T</sup> value system that was at the core of the UKZN Strategic Plan (2017 - 2021) relates to the emotional intelligence and social capital nexus towards academic's attitude on third stream income generation at the university. The chapter looks at some of the strategies the university's executive leadership is implementing to bring about change and the advancement of the institution.

UKZN executive leadership has started an institution wide process called "project renewal", which intends to reimagine the institution, ensuring that the university is meeting the current and futuristic needs of all stakeholders (Corporate Relations Division and the Finance Division, 2019:137). It looks at methods to increase participation in third stream income. Although the University Strategic Plan (2017 - 2021) has four goals, this case study focuses mainly on Goal 2: Excellent High Impact in Research, Innovation and Entrepreneurship, which is relevant to this study (Natal, 2017:23).

The chapter covers the performance of UKZN in comparison to the global standing of some universities, focuses on the challenges and reviews the financial stability of the university aligned to the UKZN Strategic Plan (2017 - 2021). The chapter looks at some of the strategies UKZN's academic leadership has used to position the university as a leading research-led university. The performance of third stream income generating divisions and how they contribute to third stream income generation.

### **5.2 Background to the establishment of UKZN**

UKZN quickly established itself as a rapidly transforming and prominent research intensive university in Africa" (Natal, 2017:6). The merged institution was established in 2004 with the coming together of the Natal University and the University of Durban-Westville. Both institutions were founded as university colleges with the former established in 1910 and the latter in 1960

(CRM, 2022). The UKZN Strategic Plan (2009 - 2016) had crafted an institutional developmental map supporting the ideal of African scholarship, guided by the vision of being a premier African university of scholarship (Natal, 2017:3). The UKZN mission statement is to be “*a truly South African university of choice that is academically excellent, innovative in research, entrepreneurial, and critically engaged with society*”. The mission statement creates the purpose for UKZN to become a leading global university that contributes to advancing knowledge and scholarship to contribute to the development of transforming societies in Africa and globally (Natal, 2017:43).

### **5.3 Global standing of UKZN**

Universities compete internationally using rankings as the barometer for international competition, which are used to inform choices in decision-making and resource allocation (Fronidzi *et al.*, 2019:11). Change is driven by new technological innovations, competition for funding and students, new academic disciplines and changing demographics (Buller, 2014: xi). In 2016, UKZN was ranked 46<sup>th</sup> among the BRICS countries by Times Higher Education and in the top 500 universities by Academic Ranking in the world, rating between 401 - 500. In terms of the Centre for World University Rankings, UKZN ranked 467, placed 447 by the CWTS Leiden Ranking, 346 by US News Best Global Universities and 369 by the University Ranking by Academic Performance (Corporate Relations Division and the Finance Division, 2016b:28). UKZN had shown variable rankings in 2020 in relation to the US News Best Global Universities Rankings, the Webometrics Rankings of World Universities, the CWTS Leiden Rankings (CWUR), and the Round University Ranking. UKZN showed a decline in the Centre for World University Rankings and Times Higher Education Emerging Economies University Rankings (Corporate Relations Division and the Finance Division, 2020b:27). Many South African universities are aspiring to rise in the global rankings to attract world class academics and students. This is envisaged as a strategy to counteract the limited funding and position the university to attract higher levels of income. (Swartz *et al.*, 2019:575).

Global rankings also focus more on research than learning, and consolidated scores neglect the deeper complexities and trust potential of the institutions (Rider *et al.*, 2020:4). There is no longer value in universities striving to become traditional universities as the world has evolved towards attaining “gold standards” or “world class standards” (Badat, 2010:245). The global rankings barometer informs the decisions of top achieving students and academics, which have a direct bearing on the university’s financial position. Top-achieving students attract bursaries from corporate, national and international organisations, which bring prestige to the institution. The

Vice-Chancellor of UKZN, Professor Nana Poku, stated at a roundtable event held on 17 September 2021 that UKZN is immersed in a highly competitive higher education environment and that the university should work towards developing a strong foundation to attract the best people to become part of the university (Captain-Hasthibeer, 2021). High quality academics have the propensity to attract large research grants, high value projects, high achieving students, research collaborations and personal research rankings, which lift the profile of the university.

Academics are required to research, publish, attend conferences and collaborate with academics, government agencies and corporate institutions. Universities, being institutions of knowledge, are required to be more entrepreneurial, which requires expanding networks, creating collaborative relations, and promoting sustainability and community engagement. This is aligned with the fourth stage of intellectual capital required to promote the knowledge economy (Fronzizi et al., 2019:1). These interactions create network ties with experts and influential individuals who may have access to resources outside the university, such as grants and philanthropic funds. These network ties build social capital through access to information and linkages to potential partners and funders. Academics within an institution who exhibit high levels of collegiality can also develop institutional network ties and share information about external opportunities, experiences, knowledge, and cutting edge scientific information. Therefore, social capital creates network ties and network configurations that connect academics attitudes towards third stream income opportunities. World-class academics are attracted to institutions with high global rankings as it lifts their academic profile and increases the probability of attracting funding grants and networks, both external and internal to the institution.

#### **5.4 Institutional challenges facing UKZN.**

The Vice-Chancellor of UKZN stated that some of the problems plaguing the institution are the reduction in public financing, uncertainty created by the political climate, protest action and the number of stakeholders that have disinvested from the university (Captain-Hasthibeer, 2021). It was recorded that council managed funds were in deficit for a period that was impacted by depression of assets, student debt and staff benefits (Corporate Relations Division and the Finance Division, 2016b:5).

Academics that have strong network ties with international organisations, government agencies and funders such as the Sector Education and Training Authorities (SETAs) can assist the university to attract bursaries, which would reduce the financial pressure on the university.

Academics that have network ties with agencies outside the university could share opportunities with relevant schools at UKZN. In order for information to flow fluently across UKZN, it is important for strong network ties to facilitate interdisciplinary and multidisciplinary network configurations that network across the institution. The university's senior and middle leadership could play a critical role by engaging academics from the various schools by arranging presentations within their respective schools or colleges for colleagues to engage with each other.

## **5.5 Financial viability and sustainability of UKZN**

In 2015, a total of 21 671 students were funded for registration, which amounted to R879 986 661. It is noted that 80% of the students funded were African students and of that percentage, 54.25% were female students and 67.70% of the total population funded were undergraduate students (Corporate Relations Division and the Finance Division, 2015:98). UKZN has encountered the ongoing financial challenge of student debt. The university processed an amount of R100 million, which was in addition to the 10% set aside for what the university termed the "doubtful debt" (Corporate Relations Division and the Finance Division, 2015:101). In 2020, 35 614 students were funded, which was made up of 4 060 bursaries, 4 593 scholarships and 26 961 by NSFAS grants. In this financial year, 88.80% of African students from mainly lower income families were funded (Corporate Relations Division and the Finance Division, 2020a:145). UKZN is seeing an increase in the number of students registering at the institution and is expected to aid more students coming from lower income families. This justifies the need for UKZN to expand its efforts to increase the finances of the institution, not only to support the registration of students but also to provide services to an increasing student population.

UKZN Council is aware of institutional financial responsibility and prioritises financial sustainability in line with institutional growth and challenges experienced by the student population. They recognise the university's developmental needs as well as the financial challenges faced by many of its students. In 2015, the Council maintained the R3 750 student deposit for registration and a 12% increase in tuition and resident fees. UKZN's executive leadership took the lead from the government's position to assist the so-called "missing middle" (Corporate Relations Division and the Finance Division, 2015:4). UKZN's council controlled funds were in deficit but showed that improvement and creative methods could be sought to improve the deficit financial position. UKZN needs to look at ways to increase revenue and curtail expenditure (Corporate Relations Division and the Finance Division, 2015:4). The practice of

providing financial concessions totalling R1 billion was approved by the UKZN Council for the 2020 academic year (Corporate Relations Division and the Finance Division, 2020a:5).

The financial position of the university is stable, but it should devise alternate methods to address long term sustainability. The university's executive leadership worked on a sustainability framework in line with UKZN's strategic plan to inform financial decision making (Corporate Relations Division and the Finance Division, 2016b:100). The university council established a task team to look at the sustainability of the university and developed a sustainability framework. The sustainability task team comprised members from executive leadership, the finance committee, the audit and risk committee, union representation and student leadership. The UKZN Council welcomed the South African government's announcement on 16 December 2017 to fully subsidise higher education and training for students who cannot afford tertiary education. The UKZN Council also acknowledged that although the new policy on funding poorer students will provide financial concessions to students, the reality is that it will not address the plight of all students and that the university should continue its efforts to find solutions to address the issue of student funding (Corporate Relations Division and the Finance Division, 2017:7).

The financial stability was still affected by the poor recovery of student fees and the historic debt of the institution, increasing by R300 million from R1.4 billion in 2016 to R1.7 billion in 2017, the accumulated deficit amounted to R55.9 million (Corporate Relations Division and the Finance Division, 2017:111). UKZN experienced significant financial challenges in 2018 and developed a sustainability strategy focusing on the internationalisation of research, short course offerings, an improvement in research income, expanding consultancy, commercialisation and investments (Corporate Relations Division and the Finance Division, 2018:33). In the 2020 financial year, student debt stood at R1.9 billion on 31 December 2020; an increase from R1.6 billion in 2019, which accounted for a 25% increase in student debt in one year (Corporate Relations Division and the Finance Division, 2020a:149). UKZN has defined its sustainability strategy by paying attention to improving management efficiency of strategic priorities (Corporate Relations Division and the Finance Division, 2018:21).

## **5.6 Institutional transformation at UKZN**

Since 2015, UKZN Council and executive leadership have heeded the call made by the Department of Higher Education and Training in South Africa to promote transformation. In December 2017, UKZN Council established a subcommittee for transformation, which developed the Integrated

Transformation Framework responsible for looking at policy, governance, academics, research, the BBBEE status of the university, integrated people support across the university and student access and funding (Natal, 2017a:11). UKZN had 38 lecturers in the Accelerated Academic Development Programme (AADP) who were onboarded in December 2018. The institution also had 16 lecturers in the nGAP programme (Corporate Relations Division and the Finance Division, 2018:98).

UKZN continues to deliver on the transformation agenda; however, it fell short on targets for appointing South African and African senior female academics. The Academic Development Programme and the promotion process have shown growth and improvement related to transformation targets (Corporate Relations Division and the Finance Division, 2020:13).

In pursuing the transformational goals of the university, it has put in place some mechanisms to develop and improve the quality of staff at UKZN. The Integrated Talent Management (ITM) Policy aims to identify, attract, and develop talent. The policy looks to integrate performance management development and talent mapping/career pathing for employees, as well as retention and engagement programmes. UKZN has also subscribed to the DHET Accelerated Academic Development Programme (AADP), which is designed to build the capacity of early career academics. UKZN had 83 academics within the AADP as of November 2017, compared to 109 in 2016 and 20 lecturers have been credentialed into full lecturer roles. UKZN also had 12 lecturers in the New Generation of Academics Programme (NGAP). In total, the university has been awarded 13 nGAP posts worth R23 130 206 (R13 049 274 in Phase 1: 2015; R9 330 932 in Phase 2: 2016; and R7 500 000 in Phase 3: 2017) (ibid).

## **5.7 Staff performance management at UKZN**

In 2015, UKZN completed the 360-degree assessment of deans, directors, and managers at levels 6 and 7; the overall results showed proficiency in providing strategic direction to the university, the ability to manage themselves and others, provide effective services and promote productive relations (ibid). The institution also developed the framework for generic key performance areas (KPA's) for professional services and academic leadership to ensure clarity on performance expectations (Corporate Relations Division and the Finance Division, 2016a:88). The performance management line-of sight-pilot project was implemented with staff from peromnes grades 1 to 7 and extended through to 2020, aimed to align institutional performance with individual performance (ibid).

It is imperative that the line-of-sight process takes cognisance of the principles of emotional intelligence when communicating discussion and feedback to staff. It also should look at the gaps with respect to emotional intelligence development and methods to facilitate social capital in promoting collaboration for third stream income participation. It should also measure the academic staff's propensity to engage in third stream income.

## **5.8 Spatial development plans for UKZN**

In 2015, UKZN put out a tender for the twenty-year Spatial Master Plan, to address the future growth, expansion and advancements benchmarked with the local and international universities (Corporate Relations Division and the Finance Division, 2015:6). The UKZN Council in 2018 approved the Spatial Infrastructure Network Master Plan (Corporate Relations Division and the Finance Division, 2018:37). It is pleasing to note that the spatial development plan looks at the development of social spaces, creating environments to promote creativity and innovation.

## **5.9 UKZN Strategic Plan (2017-2021)**

In 2016, UKZN's executive leadership developed UKZN's Strategic plan for the period 2017 to 2021 which was adopted in early 2017 (Corporate Relations Division and the Finance Division, 2016b:20). UKZN's executive leadership, in consultation with the university community developed the REACH<sup>T</sup> Value System (respect, excellence, accountability, client orientation, honesty and trust), which was communicated across the university and was visible across all the campuses of the university. Staff were also workshopped on the value system (Corporate Relations Division and the Finance Division, 2016b:88).

The UKZN Strategic Plan 2017 – 2021 was constructed as a model that prioritised and identified areas of importance as being interconnected and complementary, reflecting the model as a wheel. The purpose of the organisation is at the centre and the entire model, which affirms the institutionalisation of the university. The purpose is “inspiring greatness” in all stakeholders, partnerships, customers, and the university community. The core complements the next level, reflects the climate and the culture that seek to achieve excellence, transformation, service, innovation and entrepreneurship. REACH<sup>T</sup> values stand for respect, excellence, accountability, client orientation, honesty and trust (Corporate Relations Division and the Finance Division, 2017:13). The purpose is enshrined in the REACH<sup>T</sup> value system of the university to establish the culture of the university. The climate and culture are surrounded by the four goals and four enablers which inform the university's strategy. The collective endeavours form the external structure of

the wheel expressing the collective endeavours and the vision of aspiring to be a Premier University of African Scholarship (Corporate Relations Division and the Finance Division, 2017:25).

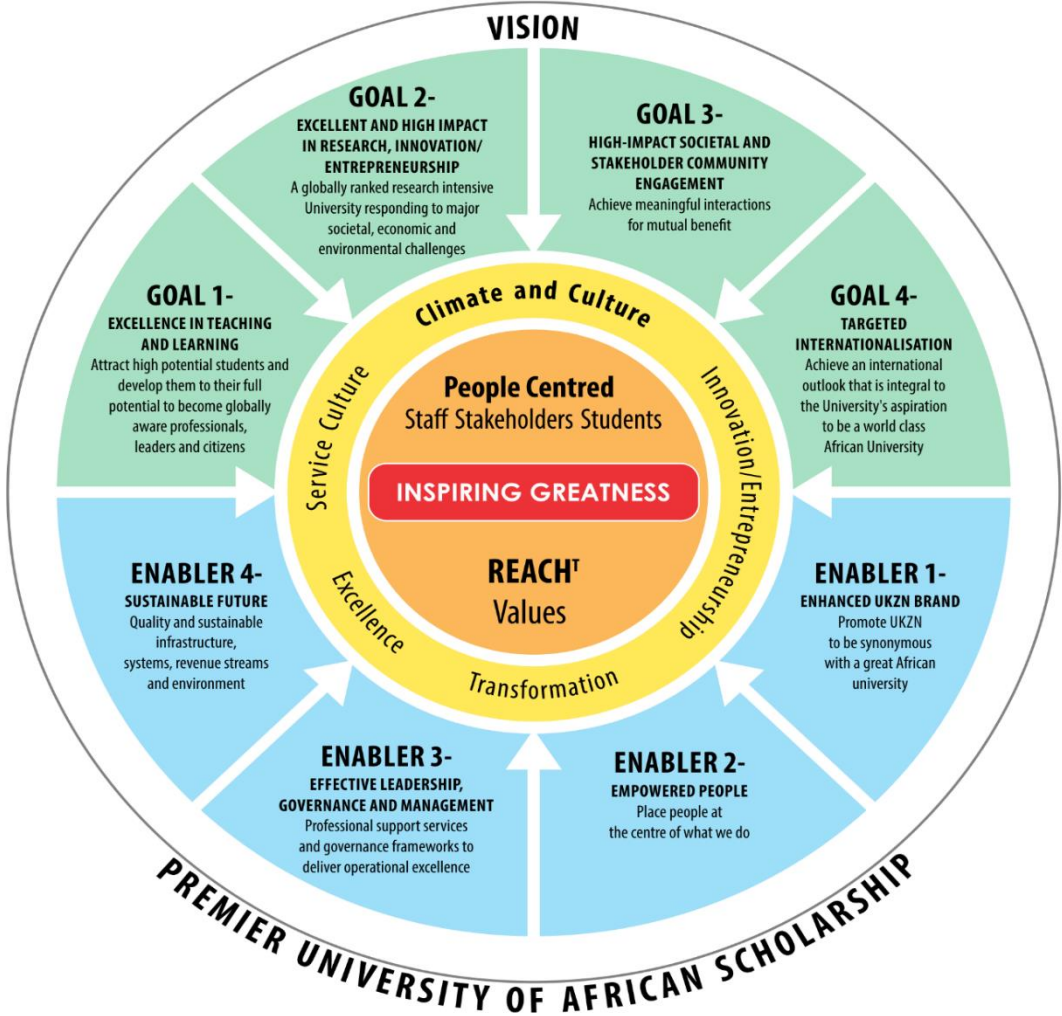


Figure 5. 1 UKZN Strategic Plan 2017-2021

(UKZN, 2016:18)

*Table 5. 1 UKZN REACH<sup>T</sup> value system*

Source: UKZN Strategic Plan 2017-2021(2017:13)

<b>Value</b>	<b>UKZN Definition</b>
Respect	UKZN undertakes to promote mutual respect, courtesy and inclusiveness.
Excellence	UKZN undertakes to display quality, leadership and energy in all that it does.
Accountability	UKZN promises to be responsible and accountable for the behaviour displayed toward all its stakeholders.
Client Orientation	UKZN undertakes to satisfy the needs of all its clients, stakeholders and partners, on a consistent basis.
Honesty	UKZN promises to deliver with integrity – steadfastly and with adherence to good governance.
Trust	The ‘T’ symbol after REACH <sup>T</sup> refers to the principle of ‘trust’ that underpins all of the other institutional values. The implicit trust enjoyed by every member of UKZN and their well-defined actions that embrace the R.E.A.C.H.T values are the important ingredients of the moral fibre of the institution.

The REACH<sup>T</sup> values are enshrined in UKZN’s Strategic Plan 2017 – 2021. If one considers each of the elements of the above value system, it emphatically supports the promotion of social capital when engaging in third stream income activities. Respect is imperative in all relationships, and

this includes relationships of a commercial nature (Corporate Relations Division and the Finance Division, 2017:13). If one considers academic participation in third stream income activities, groups come together for a defined period, and in some instances, academics may not have previously engaged with each other or may have had a limited previous association. Mutual respect is important to promote a professional and cordial working relationship. Excellence is where individuals are committed and give off their very best in whatever task or responsibility they are undertaking (Corporate Relations Division and the Finance Division, 2017:13). Client orientation with respect to third stream income generation is where the academics involved in the income-generating projects view the university as the first client in offering their expertise. Honesty is when the academics involved engage with their peers honestly and conduct themselves with the greatest integrity (Corporate Relations Division and the Finance Division, 2017:13). This would create an atmosphere of openness and transparency where academics in the collaborative group share responsibilities and work to promote the collective good. Trust is the cornerstone of group collegiality and is a reciprocal factor that promotes trustworthiness. Academics must display confidentiality and take ownership of their own responsibilities by delivering timeously, with the highest quality and promoting a trusting environment.

A strategic plan is a guiding document that helps the university define a course and manage it even in times of volatility, such as the COVID-19 pandemic (AI-Youbi, 2021:43). A meeting of UKZN's executive leadership held in January 2019 reviewed the progress of attaining the strategic goals indicated in the UKZN Strategic Plan (2017 – 2021) and acknowledged crucial gaps in effectively allowing the institution to fully realise the set goals (Corporate Relations Division and the Finance Division, 2019a:5).

### **5.10 UKZN research productivity and performance**

In 2015, the UKZN Vice-Chancellor reported that the institution, over the past decade, had shown impressive research outputs and that consecutively over the previous three years, UKZN was ranked as the top performing university in research productivity (Corporate Relations Division and the Finance Division, 2015:19). UKZN, according to the Web of Science, obtained an average growth in research productivity at 22% per annum, placing the institution in the upper bracket of high-quality international research outputs. The citation impact of UKZN researchers grew from 0.8 in 2004 to 1.4 in 2015, which placed UKZN above the international norm across disciplines (Corporate Relations Division and the Finance Division, 2015:19). Around R600 million was received in 2017, with approximately R200 million from the NRF. About 360 NRF grants were

awarded to UKZN researchers (Natal, 2017a:36). In 2017, the university had 341 NRF-rated researchers and scientists, nine of which have an A rating, which makes them leaders in their field. Eighty-seven UKZN researchers had an h-index of 20 or higher (Natal, 2017a:46). The research output of UKZN has been on an upward trend, with an improvement average of 8% over the five-year period. The funding of university research is generated from three streams of income: the first is government funding, the second is framework funding by national science agencies and the third is international competitive funds and business (Ritzen, 2020:9). In 2018 UKZN secured R310.1 million in international grants and attracted 246 international postdoctoral research fellows (Natal, 2018:33). In 2019, UKZN was the number one university in South Africa with respect to total research publication outputs and showed a 2% improvement in DHET research publication outputs from the previous year. This was the eighth consecutive year that UKZN grew in publications, with a 66% improvement recorded over the same period (Annual Report, 2019:29). This needs to be considered against the backdrop of the R4,8 billion of public funds allocated to research in the university sector in South Africa (Education, 2021:39).

Recognition of high academic ratings improves the chances of the institution attracting more government funding, improving the potential to employ more specialised academics, increasing the ability of the students to attract high quality research students, receiving funding to improve research facilities and gaining more prestige (Rider et al., 2020:13). UKZN academics across the Colleges were actively involved in multidisciplinary grant projects to the value of R30 million. The Wellcome Trust funded the Africa Health Research Institute (AHRI), a merger of the Africa Centre and the KwaZulu-Natal Research Institute for TB and HIV (K-RITH). The Howard Hughes Medical Institute had committed to continue the funding by US\$31 million until 2023. The Wellcome Trust approved a grant of US\$50 million for a period of five years (Natal, 2016:53).

UKZN has some world renowned researchers who have the expertise and profile to attract large grants. This creates an opportunity to develop internal social capital if the more experienced academics add emerging academics to the research groups and provide mentorship. The shared narratives of the more experienced academics can be used to develop the capacity and capabilities of the younger, emerging researchers. Identification is another factor that can help develop social capital. If more seasoned academics identify the potential in younger academics in the same field and choose to mentor and develop them, this will promote the growth of social capital in the form of mentorship and coaching. The process could also work inversely, where younger emerging researchers identify seasoned researchers as mentors or coaches. These associations are based on

more than having an expert mentor in the field. An example would be that each field has its own terminology, processes, codes, language and jargon, and researchers in the same field will be able to engage in and conceive innovative and creative research projects that could translate into viable commercial ventures. Trust is also an imperative factor, as research also requires confidentiality as it may have the potential to develop novelties and patents. Obligations are also important to building research groups; if members in the group can meet obligations timeously and with quality as set out by the objectives, this will build trust in the group and allow for the transfer of knowledge and expertise.

### **5.11 Research flagships**

It is of strategic importance to align the research differentials to the targets of external funding organisations, commercial partners, international collaborators and investment agencies (AI-Youbi et al., 2021:44). As part of the Strategic Plan 2017 – 2021, UKZN established the four research flagships to promote interdisciplinary, transdisciplinary, and multidisciplinary research. The research flagships are intended to promote research on the socio-economic impact and the university's relevance to society. The four research flagships are: African Health - *Saving Lives*• Social Cohesion - *Addressing Inequality and Nation Building*• Big Data and Informatics - *Computing Solutions*• African Cities of the Future• - *Most Liveable Cities* (Natal, 2017a:36). Research exploration may create new and original complex paths of research that require cross disciplinary research teams and this type of academic entrepreneurship creates unique breakthroughs resulting in institutional change (Wadhvani et al., 2017: 188).

The research flagships will be dependent on research ties and research configurations. Multidisciplinary and interdisciplinary teams will be dependent on getting the right expertise to create formation and these individuals should also have the right network ties to ensure the flow of cutting edge knowledge, skills and access to funding and resources. This would create a winning formula for creating research groups. In multidisciplinary and interdisciplinary teams, trust and obligations would be essential for the formation of a research group and for members to share information, ideas, and expertise openly. Identification would also be important to drive a common vision.

### **5.12 Third stream income**

The contributions of the three-income generating units at UKZN, InQubate, UKZN Extended Learning and UKZN Foundation are discussed below.

### 5.12.1 InQubate

UKZN InQubate is the Technology Transfer Office (TTO) at the university, which manages the intellectual property of the university related to publicly funded research. The unit manages the registration of patents, secures licencing agreements for UKZN patents and intellectual property and is also responsible for third stream income generation (Natal, 2016:67). The promotion of effective university technology transfer necessitates that academics and the TTO develop an efficient working relationship to commercialise inventions (Balven R, 2018:21). InQubate has three portfolios, which include technology transfer, student entrepreneurship and consultancy (Corporate Relations Division and the Finance Division, 2019:79). UKZN has been making attempts through its TTO to secure additional funding by applying for grants and contracts from external funders. This signals the university's intention to develop entrepreneurialism among the academic and student population and develop this pillar to add to the scholastic achievements of the university (Corporate Relations Division and the Finance Division, 2015:67). Research into academic entrepreneurship has highlighted the need to focus on micro-processes within technology transfer (Balven R, 2018:22). In 2018, UKZN InQubate received 34 invention disclosures, secured one provisional patent and one Patent Cooperation Treaty (PCT) application and two national phase applications were filed by the office in South Africa, the United States, Europe, China, Canada, and New Zealand. Universities cannot fully measure entrepreneurial success by the number of patents, licences and spin-off companies, which are dependent on whether academics perceive this process as having value for their objectives and disclose novelties (Urban and Chantson, 2017: 11). A number of technologies at the university under UKZN InQubate are at an early stage of development (Natal, 2018:71).

In 2019, InQubate received 26 invention disclosures and filed 13 patent disclosures, with one provisional patent and 12 national phase applications. The unit received five applications to create spin-off companies; three were supported by the Intellectual Property Committee and one advanced to the next phase to be supported by the UKZN Council (ibid). In 2020, the unit received 19 invention disclosures, and 8 innovation projects were funded by the Technology Development Agency to the value of R5 030 500 (Corporate Relations Division and the Finance Division, 2020:81). The university can use the approach of enlisting businesses that have benefitted from intellectual property commercialisation to become dedicated donors to the university (AI-Youbi et al., 2021:45).

In 2016, the consultancy division under UKZN's InQubate secured a R10 million project to develop the Aerotropolis Institute Africa in partnership with the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (Natal, 2016:53). In 2019, InQubate submitted 12 proposals for funding to external organisations and two were successful to a value in excess of R18 million (Corporate Relations Division and the Finance Division, 2019:80). In 2020, the Consultancy portfolio submitted 17 proposals and provided project management support to existing projects (Corporate Relations Division and the Finance Division, 2020:82). The research priorities of universities should not only focus on disciplines and subject areas but also have a detailed understanding and assessment of strengths in core areas of research. Funding the complete research value chain with prioritised and strategic projects given greater consideration for funding is vital to strengthening the attractiveness of the innovation pipeline to external and co-funders of the research and the university (AI-Youbi et al., 2021:44).

The number of proposals and projects managed by the unit is relatively small given the size of the university and the large complement of staff and researchers. UKZN prides itself on being a research intensive university but the translation of research into commercial projects is low. Strategically building strong relations with the academic community and researchers at the university could increase levels of collaboration and promote social capital to share networks, make the unit aware of opportunities and develop joint proposals.

### **5.12.2 UKZN Extended Learning**

UKZN Extended Learning is a wholly owned subsidiary of the university that provides continuing education and claims to be one of the leading service providers for short courses and career development initiatives in the region. The company has a product range of 100 programmes, which it claims to offer across most provinces in South Africa and 14 countries on the African continent. In 2016, the unit also developed a product offering to support matriculants in mathematics, mathematics literacy and foundation physics (Natal, 2016:73). UKZN Extended Learning continues to contribute to UKZN's third stream income efforts, which saw an increase in revenue of more than 50% over the previous year and showed a profit of 70%.

UKZN's Extended Learning Unit offers short courses and programmes; therefore, it is highly dependent on the creation of social capital. The academics are the resident experts in their fields and know what programmes are relevant in the marketplace. Extended Learning staff members are required to have strong network ties with the academics who may potentially be the course developers or facilitators in the programmes offered.

### 5.12.3 UKZN Foundation

The UKZN Foundation has made fundraising for student bursaries and scholarships a priority activity of the division. University foundations have historically been established to assist universities in solving challenges with respect to income generation by raising funding and donations (Sziegat and Hong, 2020:59). The foundation secured an amount of R140 million in 2015 and R24 million was allocated to student bursaries. The other significant funds that were raised by the foundation included funding for the Health Economics and AIDS Research Centre (HEARD) and the African Centre for Health and Population Studies and outreach programmes supporting the development of mathematics and science education (Corporate Relations Division and the Finance Division, 2015:86). University leadership commitment to fundraising is vital because they are able to influence fundraising strategies, engage in stakeholder communication and address any bottlenecks that may hamper fundraising initiatives (Sziegat and Hong, 2020:55). In 2019, the UKZN Foundation embarked on a drive to raise bursaries for students and secured funding from corporates, such as SAS, Amazon, Elsevier, Nedbank, Huawei and AECI (Corporate Relations Division and the Finance Division, 2019:89). It must be noted that the availability of philanthropic funding to universities has increased over the period from 2013 to 2018. In 2018, eleven South African universities raised R1.91 billion. The largest portion of philanthropic income came from trusts and foundations, which contributed 48% (Mohamed, 2020). New trends have emerged on how to attract philanthropic funding, which include venture philanthropy, international philanthropic fundraising, virtual fundraising, crowdfunding and identity-based philanthropy (Sziegat and Hong, 2020:57).

### 5.13 Summary

UKZN, like other universities and HEIs, is constantly evolving as it implements initiatives such as project renewal, equity transformation, building the pipeline of young academics and crafting futuristic strategic and spatial plans (Corporate Relations Division and the Finance Division, 2020c:141). The institution has placed the REACH<sup>T</sup> values at the core of its strategy, but there is limited evidence to show what efforts have been put in place to develop these values, especially with respect to academics and academic leadership engaging in third stream income initiatives. UKZN executive leadership should encourage academics to look at approaches to increasing third stream income generating efforts and devise methods to ensure that these efforts are prioritised and sustainable. UKZN is a strong research intensive university, but there is insufficient evidence to show that the institution is translating the research into commercially viable streams of third

stream income. The university also seems to lack coordination with respect to third stream income as it adopts a more siloed approach to generating third stream income. The next chapter conducts an analysis of the qualitative data obtained from the interviews and focus groups.

## **CHAPTER 6: A QUALITATIVE PRESENTATION AND EXPLANATION OF FINDINGS**

### **6.1 Introduction**

The chapter was constructed based on the qualitative analysis done on individual and focus group interviews conducted with academics and managers that support third stream income at UKZN. The researcher adopted a thematic approach in analysing the qualitative research findings. The thematic approach to qualitative analysis is discussed in the methodology chapter. The qualitative data analysis was compiled from thirteen interviews and two focus groups conducted across all five campuses at UKZN. Semi-structured questions were used to construct the qualitative individual and focus group interview schedules. Participants engaged eagerly and willingly with the semi structured interview questions. Rich information and diverse perspectives were offered by participants on how emotional intelligence and social capital impact academic collaboration with respect to third stream income generation at UKZN.

Having a clear understanding of the concepts of emotional intelligence, social capital and attitudes towards third stream income was imperative to extracting reliable information. The researcher explained the concepts of social capital and emotional intelligence to those participants who required reassurance that they fully understood the concepts. Participants identified important factors and competencies of emotional intelligence that can influence academics attitudes when engaging in third stream income. These included competencies such as self-awareness, self-regulation, empathy, trust, social awareness and others. Participants explained how collaboration among UKZN academics is fostered and promoted and the challenges involved. The researcher then assessed the conditions of third stream income at UKZN and how this impacted academic involvement. The participants' interpretations shed light on how policy, structural and systemic influences affect third stream income at UKZN and how this affects academic involvement and participation.

*Table 6. 1 Themes*

<b>Number</b>	<b>Theme</b>	<b>Number</b>	<b>Subthemes</b>
6.2	Human Emotions		
		6.2.1	Emotional Intelligence
		6.2.2	Self-awareness
		6.2.3	Openness
		6.2.4	Empathy
		6.2.5	Trauma
		6.2.6	Anger
6.3	Personal Development		
		6.3.1	Collaboration
		6.3.2	Teamwork
		6.3.3	Social spaces
		6.3.4	Relationships
		6.3.5	Incentivising income generation
		6.3.6	Capacity building
		6.3.7	Entrepreneurial development
6.4	Organisational development		
		6.4.1	Organisational intelligence
		6.4.2	Networking
		6.4.3	Entrepreneurial Culture
		6.4.4	Change

Number	Theme	Number	Subthemes
		6.4.5	Concerns
		6.4.6	Trust
		6.4.7	Power Dynamics
		6.4.8	Communication
		6.4.9	Diversity
		6.4.10	Mistrust
		6.4.11	Personal strengths
		6.4.12	Silos
6.5	Leadership		
		6.5.1	Merger
		6.5.2	Leadership traits
6.6	Sustainability		
		6.6.1	Income generation
		6.6.2	Growing leadership
		6.6.3	Shared vision
		6.6.4	Funding methods
		6.6.5	Academic workloads
		6.6.6	Supportive environment
		6.6.7	Organisational values

## 6.2 Human emotions

### 6.2.1 Emotional intelligence

The participants understood the concept of emotional intelligence, and they offered definitions, descriptive explanations and spontaneous examples to illustrate the concept in relation to attitudes towards third stream income generation in a university environment. Emotional intelligence was associated with having the ability to identify and decipher human feelings when engaging with others in the university context. It was stated that during interpersonal engagements, academics call upon their emotional intelligence to interpret their interactions. Explanations went beyond the definition of the concept and provided an association with the connectedness of academic interactions through the norms and value systems required for constructive and meaningful

interaction. Emotional intelligence was explained as an individual's ability to understand oneself and one's capabilities, weaknesses, and requirements for personal development.

*“There's one grounding model of emotional intelligence which all other models are built on and that is the Goleman Model, and he also took information from David Caruso and so on – which focusses on four aspects which is your self-awareness, your self-regulation, your social awareness and your relationship management.” (P1 – I 7)*

*“I would say it is kind of the soft skills you would normally have in order to facilitate and get things undertaken. So that includes diplomatic skills, preservations, the manner in which you engage.” (P1 – I 6)*

*“So emotional intelligence for me talks to the culture of governance in the institution, and that culture has to be repositioned around dignity and respect.” (P1 – I 8)*

*“Emotional intelligence, I would think, is the ability of someone to deal with the behavioural elements of human nature and their capacity to engage and interact on a human level with other members of staff or students and probably their thresholds in terms of how they are able to manage some of the key emotions around anger, frustration.” (P1 -I5)*

The development of emotional intelligence was considered to be each individual's personal responsibility to be cognisant of how their emotional decisiveness resonates in human interactions. The sentiment was that individuals should develop skills to understand and interpret their own worldviews. A participant noted that to improve interpersonal relations, individuals must be able to acknowledge their personality trait deficiencies. They also need to determine effective ways to become more in tune with their inner selves and learn emotionally intelligent behaviour.

*“I'm giving it to you in a case scenario – and in terms of the emotional intelligence, really, it's about who the individual is at that point in time in relation to the workspace that they are in and in community with other people around them.” (P1 – III)*

It was felt that sharing individual experiences contributes to strengthening interpersonal relations and the development of an academic's emotional intelligence. It was claimed that emotional

intelligence is measurable and generates greater value with more frequent interpersonal engagements. A participant felt that more frequent interpersonal engagements helped to develop a better understanding of others, improving the chances for more constructive engagements.

*“The ability of someone to deal with the behavioural elements of human nature and their capacity to engage and interact on a human level with other members of staff or students, and probably their thresholds in terms of how they are able to manage some of the key emotions around anger [and] frustration.” (P1 – I 5)*

A participant stated that in a particular school, academics from different disciplines do not engage much because their fields of interest differ. Academic disciplines are characterised by having their own terminology, methodologies and jargon. The typical characteristic behaviour of academics is to work independently and have limited communication or engagement with academic peers. A participant suggested that a concerted effort be made by academic leadership in colleges and schools at UKZN to encourage academics to work with academics outside their area of specialisation.

*“I have found work through a colleague in civil engineering and mechanical engineering. It’s been a case where I have interacted with them and we see eye to eye and there’s a meeting of minds and I say well, I know who I can suggest go to so and so.” (P1 – I 10)*

### **6.2.2 Self-awareness**

In defining the concept of emotional intelligence, participants used self-awareness most frequently to explain their experience and, at times, this was expressed in the third person. It was stated that when individuals understand themselves, they tend to better understand others and connect at a deeper and more meaningful level. Self-awareness and self-confidence were identified as important traits contributing to an academic’s management of collaborative relationships when engaging in third stream income activities. An interpretation of self-awareness was explained as the ability to examine one’s thoughts, actions, and emotions before rationalising one’s behaviour and desired goals.

*“Emotional intelligence is the ability to be self-aware and the ability to act in ways that build relationships and achieve the results.” (P1 – I 7)*

Self-awareness was identified as a vital component in human development and lifelong learning. This was considered important to academics, who are required to build on knowledge and human capabilities in developing themselves and others. A view held was that the education system that academics transition through does not spend enough time on developing soft skills such as emotional intelligence. Self-awareness was understood to be important in the development of emotional intelligence and found to be key in the process of self-evaluation. It was further claimed that individuals have a perception of themselves while still having an opinion of others. Sometimes a grey area appears and is interpreted as holding space prior to making a judgement. Self-reflection was identified as a valuable process for letting go of old thinking and being receptive to innovative solutions. The concepts of self-awareness and self-reflection were expressed as cyclical processes in personal development. A participant clarified that self-reflection allows one to open one's mind and attain clarity in a situation, thus serving the greater good of the situation as opposed to selfish pursuit. It was stated by participants that academics should evaluate themselves and reflect on how to better understand a situation. Emotional maturity was identified as an important factor in helping academics to introspect, be self-reflective and develop personality traits that promote harmony in the university environment.

*“But always self-reflect after and say, maybe I should have taken this approach, maybe it would [have] worked better.” (P1-I5)*

### **6.2.3 Openness**

Openness was expressed as the ability to listen, suspend judgement and consider different points of view. It was identified as one of the common principles required to promote emotionally intelligent behaviour. A participant felt that emotional intelligence involves rising above a situation, being open, embracing freedom of speech, being sincere and committing to interaction and meaningful engagement. It was stated that to further strengthen one's emotional intelligence, the individual will have to display intuitive discernment. This also contributes to objectivity and respect for the other person's point of view, especially when drawing conclusions and making decisions. It was felt that emotional intelligence promoted effective decision making, which is supported by clarity of thought, rational cognition and empathetic understanding when interpreting a situation.

*“You need to be able to be empathetic to your core assets and this often your colleagues. You need to understand their contextual and physiological positioning. (P1 – I 8)*

#### 6.2.4 Empathy

Empathy was described by a participant as having the ability to discern the feelings and emotions of another person by understanding their emotional state at a given point in time. It was felt that a deeper level of understanding of a situation is more important than merely looking at it based on information. An example that was provided required understanding the background of their colleagues' value systems and religious and social beliefs, which contributed to them being more understanding of their academic peers' feelings. A participant felt that it is important to be empathetic towards the human capital of the organisation and supported the need to understand the context that individuals come from and their psychological frame of reference.

*“I think trying to have empathy for other people and where they are coming from is integral for us being a better group within our cluster.” (P1 – FG 2)*

A participant said that academics at UKZN are promoted based on qualifications, experience and understanding of the university. It was felt that individuals promoted to leadership positions be developed in soft skills to gain a better understanding of the value of empathy in decision making. A participant expressed that at times there was a lack of empathy shown by the middle leadership at UKZN. It was cited that academics with young families were expected to work long hours and late into the night without being shown much compassion.

*“I go to young academics here who have families that really hate working late at night or on weekends because they not spending time with their family.” (P1 – I 10)*

#### 6.2.5 Trauma

An observation made by some of the participants was that many staff members experience emotional trauma caused by situations that transpired at UKZN. It was stated that some staff members have not yet worked through their problems. A participant affirmed that many UKZN staff tend to bottle their emotions and have become desensitised to the university. A historical situation was recollected by a participant where a group of staff members in leadership positions at UKZN had a dispute with the university, but the contestation filtered into the university environment. It was stated that the situation had a ripple effect across the university, affecting staff members who were not related to the situation.

*“You’ve got people that are highly frustrated and quite upset and I think they haven’t been able to deal with some of that emotional trauma properly and digest it*

*and compartmentalise it, and I think, as a result, it tells me that we've got a lot of people that don't know how to deal with the emotional intelligence aspect – even with some leaders actually.” (P1 - I5)*

It was acknowledged that the university executive leadership, with a previous Vice-Chancellor, were attempting to devise a strategy to make UKZN staff more sensitive to each other.

*“That's why I was interested in talking to you about emotional intelligence. Here, you have to dig deep. To stay afloat you have to dig deep.” (P1- I12)*

A participant felt that the previous Natal University was a much bigger institution than the previous University of Durban Westville (UDW), and therefore, the merger was viewed as an acquisition of a larger institution by a smaller, less financially endowed institution. It was claimed by a participant that the merger of the two institutions was an unequal partnership where areas of factional differences existed. The merger was viewed as a complex process that brought about trauma, insecurity, and contestations. A participant felt that a leadership role at a university is a tough job, which at times leads to mental anguish. It was claimed that many leaders at UKZN experience depression, become dependent on anti-depressants and they find it difficult to extricate themselves from psychological trauma. A participant noted that having high levels of emotional intelligence and spiritual belief provides reprieve, helping academics extricate themselves from periods of low self-esteem. Understanding one's strengths was cited as an important personality trait to be able to recover from difficult times of low self-esteem.

*“Natal was maybe three times bigger than UDW and in that context, it can be also seen as an acquisition rather than a merger. Apart from that unequal partnership, there was also a lot of areas of contestation because we had to then look at how we could merge not just the institutions but also the core business that revolved around the academic programmes.” (P1 – I 3)*

### **6.2.6 Anger**

It was stated that UKZN has a serious problem, with tensions continuously brewing at the university. A participant stated that UKZN has a highly volatile workforce that is very angry, which can be attributed to circumstances, partly due to remnants of the merger and problems created by the college model.

*“They will tell you that this photocopier is for this particular school. Meaning that you are excluding others. I had a problem now with a certain colleague who was supposed to be removed from a certain office because we were told that that corridor belongs to a certain school. I said, we are excluding people unnecessarily.” (P1 – I 12)*

*“Some people are very territorial and even if you approach them, they might see you as a threat in that you are trying to muscle in as if you were going to be the boss, and it may seem that you’ve got your own mind made up in terms of where you want to take the project, and they won’t see it as purely for bettering the university.” (P1 – I 1)*

### **6.3 Personal development**

#### **6.3.1 Collaboration**

The experience of some participants was that a more competitive rather than collaborative culture exists at UKZN with respect to third stream income activities. The feeling among some participants was that it is the responsibility of academic leadership to facilitate academic collaboration and encourage third stream income activities. A suggestion was that academics try to better understand colleagues and be encouraged to collaborate on third stream income activities. A recommendation was that management make a concerted effort to promote collaboration. It was stated that, in academia, it is important for academic leadership to promote collaboration as they are familiar with the university landscape and competencies of their colleagues. Leaders at the university should build the self-confidence of academics, encouraging them to excel in their professional careers and promote the formation of collaborative groups to strengthen areas of academics and research.

*“So, it’s not necessarily doing things myself but giving people the right kind of platforms where they can continue doing what they were doing but on an institutional level and create some awareness on those platforms. It’s also about then taking events and marketing them at an institutional level and creating awareness on an institutional level.” (P1 – I6)*

It was stated that collaboration at UKZN helps transfer and build capacity among academics who are willing to contribute to the university’s initiatives, such as third stream income generation. A participant felt that social capital is not always positive, and that negative social capital also exists. It was noted that negative social capital is counterproductive to achieving collaboration and specific goals.

*“Negative social capital is a very real thing.” (P1 – I 1)*

Collaboration was identified by participants as an enabler to improve the confidence of academics and promote participation in third stream income generation activities. A participant felt that collaboration would increase the probability of academic participation in applying for funding and participation in commercial activities. A participant stated that academics should subscribe to reasonable and ethical values within a group to ensure successful group thinking and foster collaboration. Academics may come from different disciplines or schools within the university; however, interdisciplinarity has the potential to assemble the requisite knowledge, skills and expertise, resulting in a formidable grouping. It was claimed that, aside from occasional events such as the school board meetings, academics from various disciplines rarely interact with other academic peers at UKZN. It was suggested that collective forums be convened, allowing for presentations, the sharing of information and opportunities to help find common ground to collaborate.

*“Firstly, there’s not a lot of collaboration for third stream income.” (P1 – I 13)*

It was advised that UKZN consider succession planning as the older professors have gained valuable knowledge and experience to attract high value grants. It was suggested that academic leadership at the university must devise a strategy on how these skills can be transferred to younger academics by establishing a mechanism for academic collaboration and ensuring a continuous pipeline of high value grant funding applications. It was observed by participants that there are academics who are willing to work together, which was evident in the School of Laboratory Medicine. An example was cited where a group of early stage academics took it upon themselves to form a support group to develop their academic and research capabilities. It was stated that this was achieved through frequent interaction with emerging researchers. The explanation offered was that the researchers joined UKZN around the same time and were put on a fast track programme with a common goal to advance as academics. It was claimed that the emerging researchers organically pooled their efforts and resources to support each other to achieve individual and group goals.

*“They all at the same level. They, all ambitious and they all want to move together. They all see the advantage of working together rather than against each other.” (P1 – I 9)*

It was cited that the four research flagships were created to encourage transdisciplinary research, but the agenda and presentations that were shared with the university community suggested that top notch researchers were being targeted. A participant suggested that to promote entrepreneurial thinking among academics, an entrepreneurial think tank that extends to all campuses and all four colleges should be formed, similar to the research flagships that were established at UKZN. It was suggested that more effort should be put into promoting academic collaboration and cited the example of labour studies academics in the College of Humanities, Law and Industrial Relations. This grouping should come together not only to look at how to generate third stream income but also to conceive ideas on how they can support and collaborate with each other to streamline activities.

*“Ideas on what to do – I have wonderful ideas and I have lots of ideas but then, to be able to channel it to what is there and all that, sometimes takes a lot and then to fill in those forms is also something.” (P1 – I11)*

### **6.3.2 Teamwork**

A participant suggested that emotional intelligence promotes greater collegiality, contributing to more effective teamwork. The competencies of emotional intelligence are a toolbox of skills that can be used to identify team members’ compatibility and engender teamwork. It was affirmed that emotional intelligence influences several aspects of interpersonal relations in academic engagement at the university. Teamwork was credited with attaining large research grant applications and individual skill sets contributed to teamwork. Having a common purpose and common goals was identified as the adhesive that binds the team together, and it was also attributed to motivating the group to work as a collective.

*“I think if you want to be successful, with large grants – and these are highly competitive grants as well, it actually helps having a strong team.” (P1 – I3)*

It was mentioned that the lack of human engagement creates emotional deficiency, resulting in personal disequilibrium and a missed opportunity to develop emotional intelligence. Feelings of inadequacy were identified as a driver of low emotional intelligence in individuals, guiding them to explore personal development interventions. A participant stated that listening to motivational speakers and attending motivational seminars are not very effective. An alternative suggestion was that individuals could attend training, which may benefit passive listeners but not those who have

enquiring minds. A suggestion was that an individual must be able to travel their own journey of personal development and write their own book.

*“Some people may learn by going and sitting and listening to some gurus on the stage pontificating and others will learn by doing it themselves, and I still believe that your own experience is your best teacher.” (P1 – I 1)*

### **6.3.3 Social spaces**

It was felt that academics should learn to socialise more to encourage better engagement and cohesiveness. There was a strong consensus among participants that social events for academics create better camaraderie and promote better understanding among academics. A comparison was made between the culture of academics socialising at UKZN and at another international university, where the participant was on sabbatical. It was observed that at international universities, social spaces existed where academics could meet; for example, student alumni houses, restaurants and pubs, which organised informal activities to get the academics to engage with each other. It was recommended that the academic leadership at UKZN consider creating similar social spaces. It was observed that UKZN academics rush out of campus to meet colleagues; the same engagement can happen on campus. Another participant spent time at Cambridge University, which has a college system where people from different disciplines meet at a university pub on campus on a regular basis. It was the individual’s experience that one never sits with the same people all the time, so academics from diverse backgrounds get a chance to engage. This format was a melting pot for conceptualising projects or research initiatives.

*“At Cambridge again, every Sunday, the master of the college sat with all the staff, and they had wine where you had the chance to sit next to him, and he rotated himself around and spoke to you. And this wasn’t just once or twice, but every Sunday.” (P4 – FG 2)*

A participant observed that most academic colleagues at UKZN sit in their offices and only interact through technology. It was felt that if academic colleagues sat together, there would be an opportunity for dialogue, which would allow for a better understanding and contribute to a more stimulating work environment. Members of a focus group concurred that it is important to promote more social interactions and create social spaces for academics to meet away from routine activities, allowing for informal and more creative discussions. A participant on sabbatical at Oxford University noticed that a lot of innovative ideas and meetings of minds happened in social

contexts. Oxford's instrumentation was cited as a good example of a spinoff created out of Oxford University and conceived in an informal way. The participant found that informal gatherings helped promote creative conversations like cheese and wine evenings, but it was noted that this practice has disappeared at UKZN.

*“Dialogues that are more relaxed and less formal. I think we are more productive when we are less formal.” (P1 – I 12)*

It was claimed that at UKZN, there seems to be little time to engage with academic peers as they are always chasing deadlines and attending meetings. It was suggested that the establishment of common spaces and information sharing sessions will allow academics to engage in and explore third stream income activities. It was felt that to get academics to work together, both a conducive and pleasant working environment is required to stimulate innovation, creativity, and entrepreneurial thinking. A participant emphasised that if an academic is not happy, irrespective of the suitability of the environment, s/he would not want to be in that space and would not be committed to the greater good of the institution.

*“I feel this university does not have sufficient social spaces” (P3 – FG 2)*

#### **6.3.4 Relationships**

A participant related the concept of emotional intelligence as being particularly important to interpersonal relations, especially among academics in the university environment. It was felt that emotional intelligence is at times self-regulated and, on other occasions, requires conscious effort. It was iterated that in managing relationships, high emotional intelligence is required, and for some people, it comes naturally, while others make a concerted effort to regulate their emotional intelligence.

*“Natural tendencies would override what could be perceived to be good emotional intelligence traits.” (P1 – I 2)*

Interpersonal relations were identified as being imperative to building internal and external organisational relationships. An example cited that the current Vice-Chancellors of other universities are influential alumni of UKZN, but it was claimed that the university is not fully exploiting these opportunities. It was suggested that an engagement office should be established at UKZN, which could contribute to improving industry and stakeholder relations. A participant felt that the gap between academic leadership engagement with stakeholders and academic

engagement with stakeholders must be closed and there must be a coordinated effort. Academics at UKZN need to have their ear to the ground to establish beneficial relationships for the university.

*“Looking at Daniel Goldman and other theorists, EQ has become a really important aspect of the world of work, particularly in the sense that the essence so many aspects of leading organisations [are] based on the relationships between people.”*

*(P1 – I 4)*

A participant felt that the mandate of third stream income units was not to build emotional intelligence and was not aware of any initiative at UKZN that developed social capital. However, it was acknowledged that third stream income generation requires selling the value proposition of UKZN, and it is therefore, imperative for academics to have good emotional intelligence skills to engage with potential funders and corporates. Building relationships was grafted as a skill that can be developed and influenced by academics with high emotional intelligence. A participant said that leaders become familiar with different personality types, an example being introverts, who by nature do not go out and seek relationships, but when they do, they give off their best.

### **6.3.5 Incentivising income generation**

A participant suggested that universities look at ways to make third stream income generation attractive for academics to participate in. It was further iterated that one way to encourage academics' involvement in third stream income is by creating incentives. University companies should establish a financial reward system for academics who generate new ideas and contribute to improvement in the income generating processes. Academics should be incentivised to create new commercial partnerships. A participant claimed that a few reputable UKZN academics have contributed to many commercial initiatives and built computer models that benefited the country, but their contributions were not recognised.

*“Those are the ones you need to look for to encourage to do unorthodox things, but the system has to reward them properly.” (P1 – I 8)*

A participant observed that third stream income allows academic initiators to decide budget allocations for awarded projects. It also allocates budgets to address departmental requirements such as the employment of contract staff and consumables. It was stated that academics find it a challenge to engage in third stream income activities due to the pressure from normal work. It was

stated that previously, class sizes were much smaller, and academics were allowed sabbaticals so they could engage in income generating activities.

It was noted that incentives are important to drive third stream income, and the percentage split should factor the individual, school, college, and university. A participant felt that UKZN is not faring well in terms of third stream income because the measure is not linked to key performance management indicators. It was observed that third stream income generation is hesitantly being conveyed to academics. It was stated that the expectation of academics is that the university should provide the infrastructure and resources to support third stream income activities. The expectation from the academics was that they should also be given a reprieve from some of their teaching responsibilities. An opposing view was that the expectation to be good teachers and researchers and above all, be entrepreneurial academics is a challenge as academics will have to divide time and effort.

*“I don’t know if you’ve heard of the RAM model, it’s a university model where they look at your productivity, PUs and then they get to some figure and then they convert it to cash.” (P3 – FG 2)*

### **6.3.6 Capacity building**

A participant advised that the approach to presenting an intervention in emotional intelligence is vital and should not be forced on academics unless it is included in the induction programme. However, it was noted that if it were included in induction training, it would only benefit new academics. It was stated that often at UKZN, academics are appointed to leadership positions but lack emotional intelligence skills, which contributes to disharmony among academics.

*“So, the awareness enables you to create the kind of social capital that you want to create through the behaviours that are linked with creating that.” (P1 -I7)*

The possibility of emotional intelligence interventions was lauded by participants, and it was stated that the intervention should be more practical. It was suggested that UKZN academics be oriented to the nature of emotional intelligence training. This would prevent delegates from attending interventions with preconceived ideas and they must be receptive to a mind shift. A participant felt that leaders tend to gravitate towards the members of a group who are perceived to be intellectually superior. This is where emotional intelligence development can play a significant role in engaging and understanding the strengths and capabilities of each member of a group.

*“... ability to be able to connect with everybody in your team and not just simply the best, the loudest or the cleverest.” (P1 – I 1)*

A participant explained that soft skills are critical to facilitate action. This includes diplomacy, presentation and approach, which are essential to getting individuals to contribute to a process. This was identified as an emotionally intelligent skill that is effective in moving individuals to action.

*“... focusing on the softer skills, but essentially these are the skills that are required to ensure that leaders can mobilise people to achieve objectives.” (P1 – I 4)*

It is important to offer emotional intelligence training for academics at UKZN, but the participant stressed the need for programmes designed for leadership at UKZN. A participant claimed that when an individual at UKZN gets promoted to leadership, they tend to have less emotional intelligence, and this is more of a mechanism to survive as a leader. It was illustrated that leaders and managers at UKZN are required to make tough decisions and at times do not have the mental and emotional strength to do so.

*“You have a system that’s making them horrible, and you are going to try and teach them how to be nice within a horrible system. It’s the wrong way.” (P1 – FG 1)*

It was felt that it is important to set up structured mentorship programmes, especially for emerging academics. This is required particularly with respect to research and proposal writing where groups can work together, and this process can encourage participation in third stream income generation. A suggestion was that a dedicated unit be set up at UKZN to provide capacity building for academics. An observation made was that often academics at UKZN are left on their own to figure things out and the reason could be the lack of leadership resources, with the ratio of leaders to academics being disproportionate to managing efficiencies.

*“Some 150 academics are going to go through a programme to support them in mentoring fellow academics and developing academics.” (P1 – I 4).*

It was suggested that UKZN should have a programme to promote leadership talent to appropriate positions to develop institutional capacity. It was noted that changes in the higher education sector warrant academics becoming more involved at the university beyond researching, teaching and generating third stream income.

*“Sorry, third stream income is not only in terms of monetary sense. It’s also in working with community engagement, in working with communities as well.” (P1 – III)*

It was cautioned that all academics may not have entrepreneurial competencies, and this is a skill that must be taught to academics. Emotional intelligence must be taught to academics because it influences their ability to network, deal with change, promote flexibility and take risks, which are all related to entrepreneurial competencies.

*“That’s why I am saying, in UKZN, as it currently is, academics and third stream income don’t go together - they don’t appreciate the need for it.” (P1 – I2)*

High levels of emotional intelligence help with the ability to read a situation and help individuals think on their feet. A participant felt that it is important to always consider other points of view, retain objectivity and always have sight of the end goal. Spirituality was credited with instilling humility and contributing to the development of emotional intelligence. A participant felt that there is a correlation between an individual’s emotional intelligence and the propensity to be an entrepreneur. It was suggested that there should be two levels of development to capacitate groups: an informal approach and a more structured approach, giving individuals the choice of how they want to be developed.

A participant felt that executive leadership at UKZN should consider leadership development training and pay attention to reviewing the inefficiencies of the university structures. It was acknowledged that UKZN has held a few interventions to build emotional intelligence among leaders, which were facilitated and assessed. However, it must be borne in mind that, through leadership transition, some of the leaders have not gone through the training. Entrepreneurial skills have not been taught to academics as part of the development at UKZN.

A suggestion was proposed that senior researchers should provide capacity development in the form of coaching and mentorship to novice academics to increase research capacity, which could lead to income generating activities. It was noted that this practice is conducted at other universities where senior professors in particular disciplines provide capacity building to advance academics in terms of their professional development.

*“So, the next leader of this institution has to focus on those systems and processes being put in place to mentor, develop and support while at the same time enabling those who have retired to also provide that key mentoring in the system.” (P1 – I 8)*

A participant felt that many of the academics who advance from being postgraduate students to academics are not exposed to industry and the reality that exists outside of the university. It was suggested that this poses a problem when trying to get these academics to think entrepreneurially. It was clarified that in the medical and engineering fields, academics are required to serve time in their professional jobs to obtain professional status and stay abreast of professional development to maintain professional accreditation. There needs to be an initiative to encourage academics to obtain industry experience and remain relevant to contemporary changes in the world of work.

It was recommended that research skills, which include academic writing skills, an understanding of methodologies, data collection and data analysis, are important skills to prepare research grant applications. It was advised that it is important for academics to be trained in these areas. A participant stated that it is crucial for more experienced researchers to work with junior researchers to upskill them to grow the research capacity at UKZN. In promoting grantsmanship at UKZN, efforts must go beyond developing individuals and encourage groups to apply for large grants. A participant stated that UKZN does not offer entrepreneurial training to academics but does offer training on grant writing proposals. It was stated that the university is in the process of looking at a three-year plan to supplement the strategy and develop the competencies and skills of academics.

It was acknowledged that the UKZN strategy requires staff to bring in third stream income. It was suggested that part of the process to assist third stream income is to get experienced academics to read proposals and provide guidance to novice academics. A participant advised that third stream income can be generated at UKZN by producing new knowledge, new research and new technology. Researchers at UKZN need to think about how they convert academic papers into commercial value over and above getting a subsidy from the Department of Higher Education (DHET) for their publications. A participant felt that UKZN is encouraging academic entrepreneurship and providing good support, but the process of convincing academics is slow. If more examples of success are proven, then there could be more uptake, and this will be an enabler to get other academics to participate.

*“I think its case [is] that academics can be very conservative in changing their habits. That’s where I think EQ can come in and also the idea when I was saying, success breeds success.” (P1 – I 10)*

### **6.3.7 Entrepreneurial development**

It was stated by participants that universities should look at ways to make third stream income generation attractive for academics to participate in. A participant affirmed that it is important to have workshops to create awareness and develop entrepreneurial thinking among university academics. The intervention should explain to academics how to go about engaging in third stream income activities, including the benefits and profit sharing model. It was noted that in the United States, private funders establish commercial units at universities and support academics in making their commercial ventures and enterprises succeed.

*“Academics could also get better incentives. It would just create a happier culture if we had extra money to support different desired activities at the university.” (P1 – I2)*

A participant said that a leader must be mindful of their situation and emotions and not impose their problems on others, allowing negativity to creep into the organisation. A suggestion to promote positivity in the work environment was to get academic leadership to create an entrepreneurial mind shift and mindset among academics. Promoting entrepreneurialism among academics requires cultivating entrepreneurial traits and competencies. It was further noted that the skill set required to be a good academic is not the same skill set required to be an entrepreneur. A participant advised that a mind shift change is required among some academics to develop new competencies and skills that are required for third stream income generation.

*“I think that to a large extent, [it] has enabled me to not just be successful in an academic career, but also be successful in third stream income and research contract, and all those kinds of things because if you apply yourself in an entrepreneurial manner, it doesn’t matter whether you’re involved in enterprise development or academic development. The skills set that you develop enables you to be very efficient in the way you go about doing things.” (P1 – I 6)*

The personal motivation of academics was identified as a driver of third stream income generation and there must be a willingness to be entrepreneurial. This would motivate other academics to be

entrepreneurial and impact communities and society. Self-motivation was identified as being essential for academic entrepreneurialism, especially when academics are not selling a product but a concept. An academic leader felt that third stream income is an external source of funding that can be used at the discretion of the fundraiser to promote advancement at the university. Researchers could generate third stream income by increasing student throughput, research outputs, applications for grants and commercial offerings for short learning programmes.

*“So continuing education in our area is only one of the whole range of areas that together should be able to start to generate that third stream income and connect with those markets and stakeholders.” (P1 – I4)*

A participant suggested that academics are not businesspeople and should therefore be allowed to focus on delivering and developing academic capabilities and not divide their attention trying to accomplish third stream income generation. It was suggested that the university should bring in the requisite business expertise to complement academic skills such as business modelling, finance and business development expertise to nurture startups. A participant felt that the majority of UKZN academics lack business skills. It was also stated by a participant that UKZN does not provide sufficient support to academics involved in enterprise activities but relies on expertise from the schools, colleges, or research fields.

*“So, what we’d want is a favourable climate or culture in the university to support our role in doing that and I find its more competitive than collaborative.” (P1 -I4)*

## **6.4 Organisational development**

### **6.4.1 Organisational intelligence**

A participant stated that UKZN is an institution of higher learning and should be a learning organisation. To achieve this, all acting posts should be filled, and leaders should remain in their positions for longer periods to ensure stability. It was asserted that with the constant change of leadership, there is a discontinuity and institutional knowledge is lost in the process. It was specified that for UKZN to be a learning organisation, academics in the organisation should be allowed to engage in constructive criticism to ensure continuous improvement rather than being mediocre. It was felt that entities that perform better have worthy relationships of trust, and management has confidence in their staff. It was recommended that even if academics make mistakes, a corrective process should be set up to ensure that learning occurs, promoting an organisational learning culture. A participant stated that South African education authorities have

introduced the nGap programme, which focuses on developing early-stage, mainly black academics, to improve their professional status and attain their doctoral qualifications to increase the pool of black professors.

*“Critical in the sense that we want to continuously improve what we do rather than being happy with average and mediocre. The learning organisation is an interesting concept and at a university, you’d expect similar mindsets.” (P1 – I4)*

#### **6.4.2 Networking**

Some participants were not familiar with the concept of social capital and requested a definition and explanation of the concept. When the researcher provided a definition, participants understood the meaning of social capital and were able to engage meaningfully with the concept. Social capital was defined as the management of beneficial relationships that uses emotional intelligence to improve communication. The formation of social capital was explained by virtue of a network of individuals working together and committing to a particular project. Social capital was explained as the ability to build the capacity of employees, allowing them to progress and develop skills. Social capital was identified as some level of goodwill that is generated through good interpersonal skills, associations and access to strategic networks that deliver results. A participant stated that it is important to draw from the collective expertise of academics and this helps capacitate novice academics. It was noted that group support provides guidance to less seasoned academics on how to learn, share ideas and engage in collaboration. Social capital was identified as a requirement to build and maintain a consortium environment, which requires academics to work together to create a positive attitude towards third stream income generation.

*“Social capital is probably some level of goodwill that you generate from having good interpersonal skills and relationships and networks that build as a result of those relationships.” (P1 – I5)*

*“Social capital for us economists is centred on a conception of inter-generational knowledge and how to make it resilient so that one can grow any organisation or any society in the right direction.” (P1 – I8)*

It was stated that social capital has a direct relationship with social awareness and relationship management. It was claimed that social capital is created by harnessing favourable social networks and relationships, which is required among academics to successfully generate third stream

income. A participant recognised social awareness as an important factor required to better understand social dynamics. It was stated that social awareness allows an individual to understand how political awareness plays out in an organisation. Political awareness was clarified as an influence in context and not related to the field of traditional political science.

*“Political awareness I’m talking about a person’s ability to sense the social dynamics in the space that they are working in.” (P1 – I 7)*

### **6.4.3 Entrepreneurial culture**

It was advocated by a participant that a more conducive and favourable entrepreneurial culture be promoted to stimulate third stream income generation at UKZN. A participant stated that often academic leadership at UKZN receives criticism about the lack of third stream income generation, and this should not be taken personally or affect the focus of third stream income objectives. It was stated that taking criticism personally could distract a leader and compromise third stream income targets. The academic environment was described as one of academic freedom and one must accept different points of view. It was advised that when dealing with criticism at UKZN, a leader should not deflect criticism but toe the line and attempt to convince people with kindness.

*“I think the research office, central research office is pushing and ensuring that the platform is there to develop IPs and all kinds of things that can generate and encourage entrepreneurship.” (P1 – I 9)*

It was felt that it is the responsibility of UKZN executive leadership to promote a culture of entrepreneurship, which should be embedded in institutional values and reflect strategic importance. Shared experiences help leaders realise that others who have the same or similar experiences may offer advice or lend a sympathetic ear, which could provide some consolation. It was indicated that to be an effective leader, the individual needs to work hard, look at things from a humane perspective and not merely lay down the law. A leader needs to be able to interact with staff and not judge people based on generalisations.

*“Now let’s work together and see how we can improve this. Just simply talking about it and trying to get the leadership to accept and understand my vision of how I wanted it to unfold was very difficult.” (P1 – I 1)*

A participant stated that you can also consider the process of diffusion between chemicals and apply the same analogy to people. If you place two chemicals in a jar, over time they will mix

through diffusion. It is the same with people; if left in the same space, they will interact, engage, and work towards a common purpose. It was noted by a participant that they had undergone diversity training within the school, and it was very constructive. The participant stated that only if academics understood the backgrounds of others, would they be more empathetic.

*“I don’t know where my colleagues are coming from, and I think until you understand that, until you can understand who those people are, you can never have empathy with them.” (P1 – FG 2)*

A participant stated that culture is the way an organisation thinks and acts and that if one wants to change culture, then it is important to change the mindset of people. It was noted that to develop some intervention, measurable standards should be set for academics to work towards. A participant stated that organisational culture is very important to organisational success and that emotional intelligence is required to shape the culture of an organisation. Soft skills are important to mobilise academics to attain organisational objectives. It was noted by a participant that academics are complex beings and have different modes of thinking and feeling, so it is important for academics to have a good understanding of emotional intelligence.

*“You need to be able to be empathetic to your core assets and often to your colleagues. You need to understand their contextual and psychological positioning.” (P1 – I 8)*

A participant felt that the culture among university academics is not to get rich; they choose their career because of a calling and strive to be good academics and researchers. Academic entrepreneurship at South African universities is a new phenomenon, and at UKZN it is a big ask for academics as they are faced with the complexities of large class sizes and heavy teaching loads, and the introduction of being entrepreneurial is daunting. It was suggested that academics become intimidated by new ideas or new thinking; they feel that it would result in them losing their territory and probably fear being usurped. A participant stated that the institution has a culture of fear where academics feel threatened and that this fear could exist because of the unknown. A statement was made that the words “academics” and “third stream income” do not go together. Participant felt that academics are apathetic when it comes to entrepreneurial and third stream income, and this is based on the vantage point of being the head of an income generating unit at UKZN. A participant felt that the objective of third stream income units at UKZN is to ensure successful projects but noted that challenges occur when people get frustrated with each other. It was suggested that

leaders need to help overcome the situation by getting academics to see the other point of view and ensuring that differences do not get in the way of the objective of third stream income generation.

*“I think the word “academics” and “third stream income” don’t go together in terms of what I have witnessed here at the university. Not that it should not go together but in terms of the status quo it doesn’t.” (P1 – I 2)*

A participant felt that the university is steeped in a culture of traditionalism in terms of the way UKZN executive leadership thinks that increasing physical infrastructure is the way to go, but the growth in demand is not having more students come to the university but to teach off-site and use online and blended learning spaces, which is a global trend. It was said that in the recent past, the academic community at UKZN did not take kindly to academics being entrepreneurial. It was suggested that it was bordering on jealousy with the mentality of why some academics should earn extra money.

*“At this university, people actually frowned upon academics that were entrepreneurial or trying to instill an entrepreneurial and innovative mindset amongst academia.” (P1 – I 6)*

A participant felt that one cannot be sure of the openness of other individuals as the university environment is known to have a territorial culture. It was stated that an overture to collaborate could be construed as one having a personal agenda and not be viewed from the perspective of wanting to contribute to the greater good of the institution. It was stated that there should be more openness and work for the greater good of UKZN. It is important that UKZN academics are loyal to the institution, but at the same time, they must not create a territorial culture. A participant stated that the university academic environment is complex and academic freedom is restricted when academic protectionism pervades the institution.

*“So, often, if academics have social capital, then they know people who run conferences; you know people who edit journals; you know the people who are important in the field of scholarship, and you have access to them in particular ways.” (P4 – FG1)*

There is a tendency for academics to openly work together in most cases, but sometimes when egos get in the way, they become territorial, and they tend to guard a particular area of specialty.

It was felt that working together could produce a better product, and this is where leadership intervention is required to facilitate this process and get teams to gel. A participant stated that when a common purpose is established, a golden thread is created, and it runs through the vision. This will encourage people to share information and ideas, but this does not happen at UKZN.

*“It’s a two- way thing – I don’t see it just being leaders, but also people need to understand where the leader is coming from. Sometimes it comes from the VC and works its way down until it goes to the academic leader.” (P3 – FG2)*

#### **6.4.4 Change**

A participant felt that one way to instill an entrepreneurial culture at UKZN is to create the right platforms where good opportunities are created. This would change the culture of the organisation and encourage leaders, academics and researchers to engage in change. An individual cannot change a culture, but an individual can create opportunities to inspire the collective. It was asserted that third stream income can not only alleviate the financial pressures of the university but also contribute to infrastructure development and other needs of the institution. The additional funds can be used to provide better conditions, such as the development of residences and better qualified academics, which would create a happier culture.

*“It’s also about how do we offer the content in a way that’s more beneficial to students and more relevant to students, more in touch with what industry is for in the constraints we have around capacity, around infrastructure capacity, and things like that.” (P1 – I5)*

Emotional intelligence was recognised as an important enabler to understand, communicate and get others to subscribe to change. It was felt that individuals with low levels of emotional intelligence are less likely to understand the reason for the change and will be more resistant to ushering in a new order. Alternatively, it was justified that individuals with higher levels of emotional intelligence are thought to be more open to engaging with change and constructively contributing to the process of change.

*“Awareness and openness to new things ... because emotional intelligence also influences our ability to deal with change.” (P1 – I7)*

A participant felt that it is important for executive leadership to bring the various spheres of activity together, which has been lacking at UKZN due to the change of leadership. An important part of

leadership is to address concerned voices by listening to them and dealing with concerns, which will contribute to building appreciation for the collective. It was claimed that low emotional intelligence can result in a lack of will to contribute to the process of change and may result in apathy or pretentiousness.

*“If you peel away that façade, they are the same underneath. You have to get to the core of that person to change them from within.” (P1 – I 9)*

#### **6.4.5 Concerns**

Emotional intelligence was identified as an important trait to ensure effective leadership and efficient decision making regarding third stream income generation. The feeling was that leaders and managers must be screened for emotional intelligence prior to being considered for any leadership role. An individual with low emotional intelligence may not be effective in dealing with confrontation and conflict management. A participant felt that it is important when recruiting individuals to gauge how they would react to or engage in conflict situations. It was felt that this was an important indication of the level of a person’s emotional intelligence.

*“Whenever we do interviews for people when we are recruiting, I’m the one who always asks the conflict resolution question.” (P1 – I 9)*

#### **6.4.6 Trust**

A participant stated that trust is important to developing emotional intelligence, which was referred to as institutional political awareness. It was stated that academic collaborations require a meeting of the minds to ensure trust is perpetuated and a shared vision is achieved. Trustworthiness was also broached, and it was advised that to develop trust, academics must be reciprocal in being trustworthy. A participant’s perspective was that a leader’s first choice would be to work with people they trust, and it was deduced that the existence of trust in a group will increase the probability of successful endeavours. The participant went on to say that if trust is not organically achieved among academics, then it is the line manager’s responsibility to put effort into developing trust through mediation and interventions.

*“The ideal would be that if everybody was more in tune and more open, but you have to be trustworthy to be trusted.” (P1 – I 9)*

It was stated that third stream income activities require the sharing of intellectual property and strategic information to achieve targeted objectives. Trust was identified by some

participants as an important factor in promoting academic collaboration in third stream income generation. An analogy offered was that trust is earned when academics show commitment and reliability and follow through by delivering on expectations. However, it was noted that trust is hard to earn but can be easily destroyed. It was recommended that to build trustworthy relationships at UKZN, trust must be reciprocal. A participant stated that there needs to be a willingness and sincerity among academics to promote trust and build sound academic relationships at the institution. It was mentioned that an emotionally intelligent academic will be able to see through a façade, which will compromise relationships. It was stated that the ideal trusting situation is when academics are open to the culture and ethos of the university. The consensus was that trust is integral to academic life because the nature of academic work requires group or teamwork. It was also stated that sometimes trust occurs organically when people spend time working together and building a bond of trust.

*“What it must do is to remain [true to] the fundamental principles of integrity, transparency, enabling and support. If these things are in place, then I think trust will be rebuilt.” (P1 – I 8)*

#### **6.4.7 Power dynamics**

It was advised that for academics to engage in entrepreneurial activities at UKZN, they would need to understand the political dynamics of the university. It was claimed that political and power dynamics at UKZN have been influenced by academic positions and expertise. It was stated by a participant that the more senior an academic is or the more prestigious an academic is perceived to be, the more power they may be perceived to possess. A participant felt that trust, power and political awareness are interrelated and conversely impact human dynamics in the same way. If they have a negative connotation, then it will have a detrimental effect, and conversely, a positive connotation will result in beneficial returns for the individuals.

*“Trust, power, political awareness all fall under the same umbrella. Trust would really be broken if the dynamics are not controlled.” (P1 – I 7)*

A participant stated that UKZN has three income units that report to different line managers, and this could create problems for the executive leadership. It was identified that currently, three income units at UKZN work independently and report to three different line managers who may not communicate with each other or collectively as often as required due to line responsibilities.

The misalignment of structures creates challenges where incumbents in the units are not sure of the reaction of seniors and contemporaries, as engagement could be viewed as suspicious. It could just be a perception from an individual, which can lead to the paralysis of potential income generating initiatives. These are some of the contradictions that exist in the academic community at UKZN.

*“We have these three “silos”, which all form a third stream.” (P1 – I 1)*

#### **6.4.8 Communication**

Communication and dialogue are especially important to ensure the successful navigation of third stream income projects. It was stated that communication can take place formally in meetings or informally when a leader shares experience to motivate the team. A participant felt that free and open dialogue among academics is necessary to ignite collaboration. Informal and relaxed dialogue was regarded as more productive than trying to force formal meetings. It was claimed that academics at UKZN are not very vocal at cluster meetings but then complain later. It was stated that it is important for a leader to speak freely and openly to other leaders in the same situation and to solicit advice. A participant felt that emotional intelligence is particularly important in ensuring dialogue is effective, especially when academics share different ideologies. It was felt that it is important to nurture conversation among academics to allow discussions to evolve naturally.

*“It must be more subliminal. That’s why I say cheese and wine or something like that where they just go there, and they let the conversation evolve naturally.” (P1 – I 10)*

It was felt that UKZN executive leadership is responsible for setting the core strategy and that senior academics are consulted. It is important for the vice chancellor and executive leadership to provide visionary leadership. A participant stated that academics engage with middle leadership but seldom get an opportunity to access leadership beyond middle leadership. It was noted that from the level of dean and heads of school, upwards, they mainly drive policy and disseminate information and instructions from higher authorities and therefore become divorced from peers. A participant felt that universities have intellectuals, and the middle leadership must not undermine the capabilities of academics but allow them to make decisions without micromanaging them.

*“I think the academic leader is the one level of management that kindly seen. People identify with them because they don’t crack the whip and I think from Dean upwards, that’s the level of management that people can’t identify with because there’s no social capital.” (P4 – FG 2)*

#### **6.4.9 Diversity**

A participant specified that diversity is important for a university to be vibrant. It was stated that diversity exists through age, gender, ethnicity and the academic’s country of origin and field of expertise. It was noted by a participant that diversity in a particular discipline has brought about social capital and translated into better outputs and idea generation and the school is flourishing.

*“I think people often seem to think you must have diversity or excellence. I think without diversity, you are never going to be excellent.” (P2 – FG 2)*

An opposing view was that although it is important for academics to embrace diversity, the counter effect is that if the group is too diverse, people tend to disengage and gravitate to more familiar groups. An observation was that the older academics tend to group together, and the younger people form their own groups. To generate grants and third stream income, it is important to look at things from an institutional perspective and maximise knowledge capabilities. Diversity was also viewed from a skills perspective. It was suggested that a blend of expertise and experience is necessary to support groups. This will help support more novice academics in group sessions, as the pace of academic and entrepreneurial development varies among academics.

*“I just had a point to make about this diversity. I think, to me, it’s important. It can bring a lot of synergy and growth, especially with regards to social aspects.” (P3 – FG 2)*

#### **6.4.10 Mistrust**

A participant stated that negotiations during the merger at UKZN were not always collegial, and the period also brought about fear that resulted in mistrust. It was stated that trust can also be developed by being exemplary. It was further claimed that trust should be created in a reciprocal manner, which can be initiated from the top-down or bottom-up.

*“The discussions and negotiations were not also very collegial at times, which became quite contested and quite challenging and difficult to get agreement on a lot of things.” (P1 – I 3)*

A participant felt that the development of emotional intelligence is acquired through experience. Emotional intelligence is influenced by human psychology and socialisation. It was claimed that individuals learn from positive and negative stimuli triggered by experience, decisions and consequential actions reinforced through repetition.

*“Once you’ve been burnt a couple of times, then you know how to navigate those minefields.” (P1 – I 1)*

A participant stated that distrust among UKZN academics is exacerbated by the operational and systemic failures of the university. Academics are known to distance themselves from the university because they lose faith and confidence in the system that exists at UKZN. It was felt by a participant that the executive leadership at UKZN tends to convince themselves and make decisions on matters with little or no consultation with academics, and this division causes distrust. A call was made by a participant for improvement in hierarchical management at UKZN and it was suggested that the system should allow for more engagement. A suggestion was to allow information to flow more freely from the executive leadership of UKZN, which will contribute to building trust among academics. Listening skills were identified as being key to building trust.

*“I don’t see any real reason why not to trust anyone else if that’s their expert area.” (P1 – I 10)*

A participant stated that UKZN academics are sometimes wary of colleagues and do not share information due to a lack of trust. It was claimed that academics tend to keep things close to their chests and this creates mistrust at the university. An opinion offered was that mistrust exists at UKZN due to bad experiences some academics have had during the UKZN merger. Another example provided was that academics are being requested to send a curriculum vitae to be included in projects but are not informed about the outcome. It was claimed that sometimes project bids are successful, but the academics that were added to the proposal are not included in the delivery. A further example was provided with respect to academic publications where contributions are made but some academics may not be listed as contributors. A participant felt that academics have good networks but are wary of sharing them with colleagues, as poor handling of networks could tarnish the relationship for themselves.

*“Sometimes we keep things to our chest because we don’t trust; there’s some mistrust.” (P1 – I 12)*

#### 6.4.11 Personal strengths

A participant defined transdisciplinarity as a process where experts from different fields collaborate to solve societal problems. It was explained that an additional dimension to transdisciplinary collaboration is bringing together individual experts who create a value chain to solve problems using their personal strengths. Therefore, transdisciplinary work promotes linkages and commonality, bringing common associations together with each specialist applying expertise and taking it to a point where the next expert starts adding value.

*“In fixing modern-day problems, we need to bring interdisciplinary and multi-disciplinary solutions, which we are struggling at this university to do.” (P1 – I 8)*

A participant offered a definition of decolonisation of education, which was not limited to teaching indigenous knowledge but also changing the way the university does business. This was defined as transdisciplinarity among academics, which encourages working across disciplines.

*“So, it’s talking about us moving towards what is called a trans-disciplinary approach, whereby you engage with the stakeholders upfront, understanding what their needs are.” (P1 – I6)*

It was emphasised that it is important for academics to gain an understanding of different fields. When academics across disciplines engage with peers outside of their field, discussions will be enriching and allow for growth and expansive thinking. The nature of this collaboration is that it will spur creativity and innovation. A participant stated that the magnitude and intensity of discussions across disciplines will differ but allow for the cross pollination of ideas.

*“So, “trans” is across, so not having any boundaries across any disciplines. So, I can work with people from any discipline.” (P1 – I 11)*

A participant stated that UKZN needs to bring in big grants and the research flagships can help bring together interdisciplinary and multidisciplinary research teams for this purpose. A participant felt that it is important to synergise efforts at UKZN to build capacity and the four research flagships can be a good starting point. A participant stated that they were part of a development programme conducted by an Erasmus-funded expert, which was a phenomenal learning experience. The participant advised that the Erasmus grant would assist in developing the research capabilities of academics at UKZN. It was stated that this is where emotional intelligence is important in trying to get people to work together. The university should adopt a transdisciplinary

approach when engaging with potential commercial opportunities to present a compelling solution to prospective clients that require consulting services.

*“We know that people love their own nests, they love their own specialisations and unconsciously so.” (P1 – I 12)*

It was noted that academics tend to become comfortable and complacent in their disciplines and prefer to work in their own space. The participants felt that transdisciplinary leadership thinking is important to advance third stream income generation at UKZN.

*“So, it means, similar to what we are trying to do with the research flagships, we are trying to bring inter-disciplinary teams and multi-disciplinary teams together. Now, in order for you to work well in a team, I think there has to be a level of emotional intelligence and so, it comes back to [the] definition around relationships and behaviour amongst colleagues and staff and students.” (P1 – I5)*

#### **6.4.12 Silos**

A participant felt that the mandated third stream income generating units at UKZN are working in silos. All third stream income activities should be under one banner and headed by an executive director. The business development executive should be responsible for coordinating the combining of the third stream income activity efforts under one portfolio. The current structure is not feasible, as InQubate reports to the Deputy Vice-Chancellor - Research and Innovation, UKZN Foundation reports to the Executive Director - Corporate Relations and Extended Learning reports to the Deputy Vice-Chancellor - Teaching and Learning. A participant felt that the three verticals of the three income-generating units reporting to three different executives have resulted in misalignment. It was asserted that there are four income generating units at UKZN, namely the Foundation, International Office, Incubate and Extended Learning and these units should be operating collectively under one umbrella.

*“I said you have created three third stream entities who have a common goal and their goal is not necessarily purely academic. They could be re-aligned or basically be pruned as a whole new division that looks at that aspect of the business.” (P1 – I 1)*

Another participant suggested that other universities call the cluster of third stream income units “Enterprise Development”. The level of interface and engagement is lacking across third stream

income units at UKZN. One of the participants noted that if UKZN is serious about third stream income, it needs to provide support to enable academics to compete and perform at the level of a premier university. A participant felt that it is difficult to ascertain how UKZN is fairing in terms of third stream income generation as a few units and faculties are involved in third stream income generation activities where information is not shared with the university community. Some income generating units at UKZN can generate more income than other third stream income units if they are provided with the necessary resources. It was also noted that some of the targets that are set are skewed, such that units with more resources and staff are given lower targets than other units that have fewer resources. A participant stated that some income generating units have a lot more potential but are not being sufficiently exploited. It was claimed that there seems to be very little buy in from the middle leadership and academics at UKZN to engage in interventions and participate in third stream income.

*“I think that our target should be halved and, extended learning where they’ve got something to sell, theirs should be doubled or trebled because they really have the potential to bring in a lot of money.” (P1 – 11)*

Academics work in silos, especially those who have built strong research profiles and are effective by themselves. Academics have choices, even if they are working in a particular division or discipline; they are not forced to work with others. It was mentioned that this is one of the disadvantages of the college model, where academics work in silos. A participant stated that the key to fostering collective working relations among UKZN academics is to break down the silos.

*“Definitely because if you want to get people to come together and to work together, especially if they are, if I could call them “highflyers” and to get them all to come together and work together, emotional intelligence is something that will help that to happen because the reason why people work in silos is because they are effective by themselves.”(P1 – 19)*

One sentiment is that the merger resulted in UKZN becoming too large and this was partly responsible for creating the silos. This has created a situation of having many academics from the same discipline are grouped together as opposed to several academics spread across schools. A participant said that UKZN has a historical problem, created by the merger of the two universities. The planning and demarcation of office spaces and the allocation of common facilities like kitchens are impractical because of the past allocations and status quo.

*“I had a problem now with a certain colleague who was supposed to be removed from a certain office because we were told that that corridor belongs to a certain school.” (P1 – I 12)*

A participant stated that people at UKZN do not share information, and in most cases, academics find their own way through some professional learning. The participant quoted an example of applying for a grant and was not advised by academic peers that, at the end of the application, a list of references was required. It was cited that in academia, there is an unwritten rule that people set others up for failure.

## **6.5 Leadership**

### **6.5.1 Merger**

It was stated that the UKZN merger was not simply merging two institutions but required the overhauling of the core business, which was the academic programmes, to ensure there was no duplication. A participant stated that the two merged institutions had different rules, which also included academic, cultural and institutional rules. The merger required executive leadership to consider how the change was to be affected in terms of attitudes and the adoption of new roles and responsibilities. It was cited that one needed to look at the historical trend of people in management positions at UKZN. In the past, many academics in management positions were from Natal University, and this has changed with more academics from the previous UDW in management positions, which portrays the perception of a power influence.

*“You’d find immediately that there’s this perception by the ex UDW staff that we are being taken over.” (P1 – I 3)*

A participant stated that academics should contribute to raising part of their own salaries. It was felt that the university environment is different from traditional government departments where salaries can be catered for because of the clear identification of resources required. Universities cannot exactly calculate student numbers, the value of subsidies they would attract, the number of academics required and research outputs.

*“Universities have to take care of the salaries and if you look at the growth, student numbers, the changes and so forth, well, it doesn’t go along with the subsidies and provisions for academics’ salaries.” (P1 – I 12)*

A participant stated that when one considers generating third stream income, the capacity within divisions and the academics complement needs to be considered. The participant went on to say that the academics at UKZN make up about 70% academic lecturing staff and 30% senior lecturers and above. This is a big ask for lecturing staff to submit big grant applications when they have huge teaching responsibilities. The added complexity is that many academics are close to retirement, and this will result in a loss of skill and experience. A participant stated that UKZN's academic leadership needs to consider how to structure and develop research academics with the assistance of experts from inside or outside the university. It was suggested that support must be consistent and frequent, especially for less experienced researchers with structured development plans.

*“So, there's a culture of personal development and personal advancement.” (P1 – III)*

A participant stated that teaching workloads are quite high, class sizes are large at the undergraduate level, and the quality of students at UKZN is not of university standard. It was noticed by a participant that in a particular school, the student numbers are so large that it should be a college. The suggestion was that everything in the school should be centralised to bring about efficiency, including things like ethical clearance. Academics are becoming more frustrated and are not interested in being collegial, and academic leadership does not understand these frustrations. The participant felt that if the system works, then academics could think about being entrepreneurs.

*“More and more systems and creating more bureaucracy and more hurdles.” (P4 – FG 1)*

It was observed that some schools at UKZN are more expensive to run, like the School of Physics and Chemistry. It was noted that universities use different methods of funding streams to sustain their universities; some have a resourceful pool of alumni and big investments. It was not viable to only rely on government grants and large student numbers, as this has a direct bearing on the staff-to-student ratio which impacts teaching and marking.

*“So, our balance sheet doesn't look as great as compared to, let's say UCT, where they have massive endowments and massive investments and so they are then able to generate more income based on that because of the massive amount of interest that they get and so then they can cross-subsidise.” (P1 – I5)*

A participant stated that the physical organisation of schools at UKZN was not effective, resulting in staff and management not being in proximity to each other in some schools. Continuous interaction has a bearing on collegiality and staff morale. The previous structure at UKZN had college boards, which allowed academics from different disciplines to interact. The college model has a limited scope of disciplines and does not allow for a broader, more diverse engagement. There is a sense of alienation in some schools at UKZN that are not heavily involved in research like the accountants that follow a professional route. This sentiment is that some departments are added to schools for convenience, and this has created a misfit. The example of the lawyers, accountants, economists and finance academics were provided. This has an impact on academics who do not have other academics with similar interests to engage and collaborate with.

*“I think the current streamlines the sort of – so, there’s almost the sense that when they put together the schools, they said, well who would – the accountants, no one really wanted us because we don’t research.” (P1 – FG 2)*

It was stated that the cluster approach to management creates a bureaucratic and almost dictatorial system where the dean gives instructions, and the middle leadership must ensure they are implemented. A participant also felt that the cluster meetings have no decision-making power, and the recommendations are most often not considered. It was claimed by another participant that the UKZN middle leadership themselves enforce the structures and you cannot approach a higher authority unless you have followed the channel of authority.

It was felt that the introduction of the college layer had a negative impact on small groups. It was claimed by a participant that the current model does not seem to be working for the College of Engineering, Science and Agriculture. It was stated that an attempt to get specialists to think outside their area of expertise; for example, an engineer behaving like a scientist does not work. It was stated that engineers must ensure they keep their professional status, which is different from that of scientists.

*“I think the college system – the introduction of the college layer, somehow negatively impacted the smaller groups. It’s very difficult to say exactly why, but I think it was a case of one size fits all.” (P1 – I 10)*

A participant stated that InQubate is not faring as well as it should in generating third stream income, but efforts are underway daily to improve performance. The reasons cited for the performance were attributed to the structure of the unit. It was said that the inefficient structure of

InQubate makes it counterproductive to what the unit should be doing to achieve its targets. The other challenges that were cited included supply chain issues, procurement issues, human resource issues and bottlenecks that hinder engagement with stakeholders.

## **6.5.2 Leadership traits**

It was claimed by a participant that at UKZN, emotional intelligence is not assessed in candidates who apply for leadership positions and not much emotional intelligence capacity building is provided to newly appointed leaders. A participant felt that this was a travesty, as emotional intelligence is critical to everyday life and the working environment, especially when in a position of leadership.

*“As [a] leader, you may have your own particular style, but you also have to sometimes adapt that style to the circumstance[s].” (P1 – I 1)*

A participant felt that academic leadership at UKZN needs to employ more emotional intelligence to be effective. This is where the Henry Blanchard model of leadership can be used to determine the choice of leadership style based on the situation and circumstances. It was suggested that the situational leadership model can help build leadership capacities, improve emotional intelligence, and develop decision-making competencies at UKZN. A participant felt that getting frank, honest responses from leaders builds confidence among academics and promotes respect, especially when leaders can concede to mistakes.

*“To assess your ability or capacity to be able to keep some of those emotions in control and to be able to interact on a professional level without becoming overly emotional. So, if you take leadership, for example, a leader that has poor emotional intelligence is someone that is unable to deal with confrontation and conflict effectively.” (P1 – I5)*

## **6.6 Sustainability**

### **6.6.1 Income generation**

Third stream income was identified as a vital source of income for UKZN, which is generated from broad participation to attract private sector and research funds to the university. It was proposed that to broaden participation in third stream income requires more extensive engagement with the private sector and the marketing of UKZN expertise. A participant believed that third stream income required winning the confidence of academics to support targeted projects. It was

felt that the challenge is getting academics to understand that it is not about earning large amounts in the short term but having a strategy to consistently generate funds.

Many of the participants defined third stream income as funds derived by the university outside of student fees and government subsidies. Participants defined first stream income as the main source of funds received from student fees; second stream income as income obtained from government subsidies; and third stream income as income generated through entrepreneurial and philanthropic activities. A participant described third stream income as funding derived from a range of entrepreneurial activities conducted by the university. A participant felt that there is a need to move away from referring to third stream income, as this subconsciously relegates the importance of the contribution it makes to the sustainability of universities. The participant suggested that income generation be referred to as alternative funding.

*“Personally, I think we need to move away from using the terminology “third stream” because it kind of – in a way, subconsciously relegates that source of income as third class income to the institution, when actually it should be viewed as first class income to the institution.” (P1 – I6)*

A participant defined third stream income as any income that is generated outside of the main fund. It was classified as funds generated over and above government subsidy income, which is generated through research; teaching inputs, which are enrolments; teaching outputs, which are graduates; and throughputs. Third stream income can include research grants and anything else from government funding outside of mandatory funding. Funds generated from entities such as UKZN Extended Learning and SSDC Pty (Ltd), a UKZN-owned company that manages university space, are units that can be used to sweat the assets to generate third stream income.

Some of the participants felt that there is insufficient urgency for South African public universities to generate third stream income because, traditionally, universities’ revenue is raised through large student intakes, government subsidies and NSFAS funding. Participants stated that third stream income is important to universities due to the cutbacks in government funding and the reduction of government subsidies. A counterargument was that public universities are funded by the state, and therefore, are public goods. However, this view is changing as universities are moving towards a blended funding model that incorporates elements of raising private funds. This was viewed within the context of the university’s efforts to maintain operations and expand delivery to cater for the larger student intakes. One of the participants felt that third stream income is important for

UKZN to address the historical past and create a futuristic university that is not only modern but also a leading institution of higher learning.

*“Government will have less and less money because the demand of the fiscus is going to get bigger and bigger, particularly, in South Africa, which means that to remain a viable international standard university we need to generate our own income and that makes it even more important now than ever.” (P1 – I 8)*

Third stream income was deemed extremely important in view of the fact that a large percentage of students are enrolled at the university based on some type of debt financing. This means that the university does not get its full projected budget and has too often catered to increasing student debt. This was identified as a risk to the funding model in terms of frequency and timely payments, as well as the risk of nonpayment. Third stream income generation is becoming a priority for universities globally. The participant went on to advise that the way the funding formulas are changing both nationally and internationally, third stream income will at some point become the main source of funding for universities. It was noted that block grants from universities have not been increasing at the same rate as the increase in student intake, the economy is performing poorly, and universities cannot be turning to the government for increased funding. It was observed that UKZN, in principle, has taken the decision to provide access to students from lower income communities and this involves taking in students from the missing middle. At times, the university indirectly absorbs this cost of nonpayment of fees and historical bad debts.

*“With regards to student fees, looking at UKZN, 60% of our students are here on some type of funding. The other 40% are in some form of debt which means very few actually pay the full package in terms of fees that are due to the university. So, effectively it is extremely important that we supplement student fees and government subsidies.” (P1 – II)*

A participant believed that universities have not looked at third stream income as intensively as they should have because they have been reliant on subsidies and student registration fees. However, it was noted that government subsidies and student fee collection are on the decline in South Africa. In order for universities to be sustainable and be among the leading universities in the country, they are required to drastically increase third stream income to make up for the shortfall in budgets. It was noted by a participant that it is important for the UKZN community to realise that the current level of subsidy funding is not going to sustain the current and emerging

university model. Universities also bear a serious risk if, without prior notice, government funding shrinks substantially. A participant advised that a university does not provide money to support additional non-funded students and research activities outside the norm.

*“It’s about an external source – and maybe that’s my whole thing about third stream – it’s an external source funding the professional development and growth within the university itself, and that’s how it’s happening.” (P1 – I11)*

It was felt that academic leadership at UKZN places more emphasis on creating awareness about third stream income generation, as this ideal is included in the approved UKZN Strategic Plan (2017–2021) and there is evidence that the shift is happening. It was observed that higher education is undergoing a revolution since the #FeesMustFall campaign, and third stream income is becoming increasingly important for the sustainability of higher education institutions. It was indicated that third stream income at UKZN includes commercialisation and innovation. It was purported by participants that, in terms of projections, universities in South Africa are going to struggle to sustain the NSFAS funding model.

*“I think it’s critical, especially because of the financial climate that we’re in today, where we’re facing a lot of different pressures from the university such as the “fees must fall” campaign, budget cuts through the different funders, NRF, for example, going through different types of re-structuring, which is affecting the subsidies that they can provide to the university.” (P1 – I2)*

UKZN was classified by a participant as a less financially endowed university compared to other institutions, like the University of Cape Town (UCT), which has large endowments and massive investments. A summation offered was that government departments compete for state funding and universities like UKZN must be more agile and aggressive in their approach to attract third stream income. A point of view offered was that the South African government would be required to increase tax collection to support increased government funding of public universities. It was claimed that third stream income is a necessity to supplement state subsidies and cover all strategic expenditures, such as infrastructure costs at universities.

*“So, it comes back into the main fund, and it actually funds mainly operations, but some of it goes towards strategic sort of funding where we [are] looking at – let’s take something like the research flagships that are a part of the strategy but there*

*has to be funding that will be able to cultivate and generate the type of interest.”*

(P1 – I 5)

A participant felt that UKZN executive leadership is committed to the strategic development of third stream income, which is evident in the strategic plan. The internationalisation of research initiatives and results shows that UKZN is improving in terms of research funding. Third stream income has become an important priority at UKZN and there is constant discussion at the Executive Management Committee on how to increase third stream income. A participant affirmed that UKZN executive leadership has been working on a sustainability plan, unpacking strategy in a more detailed fashion to guide entrepreneurial and strategic initiatives. It was stated that the UKZN Strategic Plan (2017–2021) is more of an aspirational document and part of the strategy looks at alternate means of funding, such as the commercialisation of research. It was stated that an implementation plan is being crafted from the strategy to develop a clearly defined process to increase third stream income generation. A participant advised that the approved UKZN strategy contains a new teaching and learning strategy looking at national imperatives such as the decolonisation of education, factoring in the fourth industrial revolution and transforming of the curriculum including the inclusion of indigenous knowledge systems. It was further advised that UKZN is looking at increasing blended learning and alternate sites to increase the capacity of the institution. It was reiterated that third stream income generation is vital for UKZN to achieve the desired goals.

*“Then, at the institution, we have the leadership that engages with stakeholders, which typically would be at the executive level, but we don’t have a closing of that gap between the executive engagement with stakeholders and with the academic and research engagement with the stakeholders.” (P1 – I6)*

The research flagship project was identified by a few participants as an initiative funded by the university’s strategic funds aiming to cultivate and generate interest in strengthening multidisciplinary and interdisciplinary research. The objective of the research flagships was more about generating new ideas and getting academics to buy into innovative ways of engaging in research.

*“We’ve had a lot of calls for grants where – I use an example for the flagships – where they want cross-disciplinary.” (P1 – I9)*

The research flagships use the excellent capacity of the university to engage with the private sector, industry and community to undertake research that adds value to society. A participant felt that many academics have great ideas but are not sure of themselves and it is important to engage with them and get them to see the value in their ideas.

*“So, we now need to be malleable enough to see our value in taking the products that we have into that interface with industry and the workspace.” (P1 – I 8)*

It was stated that UKZN’s academic leadership must engage with researchers in a manner that is enabling and supportive. A participant indicated that it is important for academics to understand that they are part of a much bigger system and should be exposed to the holistic objectives of UKZN.

*“So, if we are looking at then creating platforms such as with the research that we do in the medical space generally, is to see how we translate what we have.” (P1 - I13)*

A case was cited where an academic undertook efforts to generate funding from the private sector to fund master’s and PhD bursaries. The academic became apprehensive, having realised that part of the conditions placed on universities to fund research initiatives was that the research deliverables and outcomes must advance the funding organisation’s business and competitiveness. It was qualified that sometimes there are competing interests between academic projects as some academics provide technical expertise to the industry.

### **6.6.2 Growing leadership**

A few participants concurred that there is a tendency to promote academics who are excelling or have high research ratings into leadership positions at UKZN. One participant felt that the route to leadership at UKZN is for academics to excel at research. However, it does not mean that if academics have good research outputs, they will be good leaders. It was stated that this is not a criticism of leaders at UKZN but of the process by which academics ascend to leadership. A participant noted that leading a research group requires the supervision of postgraduates who are compelled to listen, which is different from leading academic colleagues in a professional environment. A comment was made that the process of selecting leaders at UKZN is one of the reasons the right leadership candidates are not appointed. It was felt that there is a good chance that the leadership appointments are specialists in their field but have not been capacitated for

leadership roles and may even lack skills like emotional intelligence. The process of promoting excellent academics could be to the detriment of the individual, who could be set up for failure. Leadership appointments were raised as a concern with respect to the development of an organisational culture that may not be progressive and sustainable.

*“There’s an aspect of that I sense and just because you’re producing research output doesn’t mean you are going to be a good leader.” (P1 – I 10)*

A candidate felt that the UKZN system of appointing cluster leaders was viewed as rigid and ignored potential candidates because of their lack of academic qualifications. At times, it was felt that it forced the position on other academics, who did not want to do the job. A participant stated that it would be good to be a cluster leader if budgets were provided to do innovative things. However, there are insufficient budgets, most of the responsibility requires managing people and the inefficiency of the college model adds to the complexity.

*“That’s why I’m cluster leader. I’m a lecturer. I’m the lowest of the low. So, they make us cluster leaders and they say, ‘because you are not a senior lecturer, we are not going to pay you either’.” (P1 – FG 1)*

A participant felt that some leaders want to be in control of things within their own space, while others extend themselves to control things outside their area of responsibility. It was felt that some senior academics at UKZN secure their niche area and prefer to have younger academics in the group, so they remain in control. It was stated that there is a false sense of power among some academics who ascend to leadership positions at UKZN. A participant felt that quite often academics use position and authority as defense mechanisms to prevent exposing their incompetence. It was advised that it is important for leaders to be open and transparent, and this will help break down barriers with academic peers.

*“In some instances, if they do have younger people in their group, those people remain junior so that they are always senior. It’s like a hierarchy and they are always in control.” (P1 – I 9)*

A participant felt that academics work hard at developing their professional portfolio to become eligible for promotions, which may not be their calling. Policies within the university would need to be liberalised to allow staff to do more to attract third stream income to the university. Some policies do exist at UKZN, like private remunerative work for staff members that may be limiting

to third stream income. A participant felt that some academics, based on seniority or position, have more opportunity than subordinates. It was observed that at UKZN, there are a few groupings of academics that work as a closed and insular grouping. Groupings are fine, but when they work to exclude individuals, it becomes counterproductive. The sentiment in these groups is that everyone is free to join, but when academics enter the group, undercurrents emerge.

*“I think there are different groupings and there’s nothing wrong with that unless they are cabals. Cabals work with the exclusion of others.” (P1 – I 12)*

### **6.6.3 Shared vision**

A participant felt that to promote the collective, leaders need to promote dialogue on how shared vision can be created. It was felt that if academics do not have a shared vision, they may try to derail the process due to a difference in opinion or personality. It is important to get the collective to be steadfast and sincere in subscribing to the greater good. Academics may not always buy into the vision of a leader, but they will be encouraged when they see progress. A participant suggested that to get academics to subscribe to a particular vision, a leader should present a compelling case on how objectives will be achieved.

*“There does have to be a definite sense of the vision of the university and higher education in the country that all of us can buy into and support that’s for the greater good and for a common purpose.” (P1 – I 4)*

It was mentioned that sometimes academics may not be confident about themselves and may require support and guidance. A suggestion was that it helps to get some opinion leaders to buy into a vision and allow these individuals to be champions of the cause to encourage others to commit to the vision.

*“He was basically my champion. He would encourage these guys. He would go and coerce them and say, “come on, you have to do it.” (P1 – I 1)*

A participant stated that it is important for academic leadership at UKZN to envision what the future of UKZN will be to better contribute to society. It was advised that there is a buy-in at UKZN, but the approach is important. A participant stated that things look nice when presented, but when the process starts, egos and different interpretations create complexities. It was suggested that a good method is to pilot things so that individuals can see where they fit in, and it is then easier to sell a vision.

A participant felt that it was important to align the vision of the university with the national imperatives and work towards supporting the growth and transformation of the economy. It was said that debate should not be stifled in the process of visioning. To develop social capital, it is important to get academics at UKZN to identify with the goals and objectives of the university. These include academic and research excellence, the importance of stakeholder involvement, and financial independence.

*“So, we need to be able to have investment in ideas that will not necessarily bear fruits today but will make sure that we are among the elite for tomorrow. So, for me, third-sector income allows us to innovate.” (P1 – I 8)*

#### **6.6.4 Funding methods**

It was stated that one of the factors promoting the need for third stream income is global transformation in the university sector. It was suggested that the source of third stream income could come from private companies and government departments other than the Department of Higher Education. A participant felt that third stream income activities could harness the latent time of academics outside of their normal responsibilities at the university. It was conceded by a participant that the financial benefit accruing from third stream income should in part be allocated to the university. A participant felt that UKZN is too bureaucratic and not agile enough to respond to the needs of the private sector. To become agile, the university needs to rethink its processes to ensure a rapid response to commercial opportunities.

*“If we had third stream income, it’s just going to alleviate other pressures at the university.” (P1 – I 2)*

An interesting perspective provided by a participant focused on the methods of raising third stream income and how third stream income is defined. It was suggested that creative methods of attracting and generating higher levels of third stream income be devised. A participant felt that third stream income generation is in the mindset of the university, but creativity and innovation are embedded in the mindset of UKZN staff. It was indicated that many academics at UKZN are not aware of business support units like InQubate and some are risk averse. A participant also stated that a particular college had a strategic fund, which is different from the college fund, and to their knowledge, it was the only college in the university to have a strategic fund. It was suggested that this fund may not continue in the future and that the college work towards not having the strategic fund and develop mechanisms to raise third stream income.

*“That came from our college strategic funds and there’s pressure apparently because we are the only college that has it in that structure.” (P1 – I 9)*

It was stated that a lot of historical funding is coming to an end at UKZN and the UKZN Foundation and other such units are geared to increasing third stream income. The university needs to look at strategies to tap into alumni and high-net-worth businesses. It was stated that the university’s executive leadership is exploring an enterprise model to bring all third stream income entities under one umbrella as an independent structure. It was said that there is a master plan that is being developed to look at commercial ventures to bring in revenue to the university by making use of available land. The same sentiment was shared by another participant, who felt that UKZN adopted a commercial and business strategy in raising third stream income. A participant stated that UKZN academics are required to identify commercial clients, match the expertise and service to address the client’s problem and provide viable solutions.

*“So, the idea is to bring all these various entities under one body, which we would call an enterprise and to have a proper CEO that would then run these things and generate the right type of income that we require.” (P1 – I 5)*

It was felt that UKZN has the capabilities and expertise to present solutions and solve problems for the private sector, but this is not being fully exploited. It was stated that there is a wealth of expertise and experience among recently retired UKZN academics, who can be called upon to share their expertise and give back to the institution. A participant stated that third stream income initiatives draw on the expertise of individuals.

*“I certainly believe it should be horses for courses. If you are a specialist in a particular area, then that is what you should be doing.” (P1 – I 1)*

It was felt that third stream income is vital to universities given the constraints that are placed on them in the provision of higher education. Another participant affirmed that third stream income is critical to the university, especially due to the financial climate in the country and the pressures brought about by the #FeesMustFall campaign and budget cuts. In generating third stream income, it is important to gather market intelligence. This is where the university is dependent on academics and researchers to build relationships with industry and the private sector.

*“At the end of the day, it can get down to the most basic aspects of the relationships and effective relationships or ineffective relationships and one could talk about major multi-national corporations.” (P1 – I 4)*

A participant suggested that third stream income is not a consistent source of income because it is based on innovation and contracts. This is where the university can offer its expertise and special services commercially to the private sector and government. It was suggested that third stream income be used to provide incentives to encourage and stimulate more research to raise the competitiveness of the university. An important role of university research academics is to access and secure funding for postdoctoral programmes and scholarships. A participant suggested that an avenue to raise third stream income is by commercialising research through spin-off companies, which may be established in partnership with the university. It was considered important to generate income for university-established entities using academic skills and research.

*“He said let’s see what you can do in terms of changing the mindset at this institution in terms of innovation, entrepreneurship and commercialisation.” (P1 – I 6)*

A participant stated that third stream income should be the responsibility of units that are responsible for commercialising the university’s technologies. Academics should be involved in applying for research and travel grants to supplement traditional research funding. It was stated that academics are busy with teaching responsibilities and do not have the time to raise third stream income. The additional burden of raising third stream income places a strain on academics at UKZN because current academics are required to carry the additional teaching load. One way to generate third stream income is to appoint international professors as honorary professors, but it was felt that the UKZN Human Resource Department is ineffective in creating these appointments.

*“There are projects where you want to increase the number of academics with PhDs, then after they have to do post-doctoral research training and then with their grants, you can use third stream income to buy out your teaching, you will get teaching relief.” (P1 – I 12)*

A participant explained that the other means of generating third stream income are through cold calling, the submission of proposals, entrepreneurial creativity, fundraising and donor initiatives. A participant identified a huge opportunity with distance learning and claimed that UKZN can learn from institutions like the Open University in the UK, UNISA and universities in the USA.

In India, a chemical engineering graduate can get one degree by being registered at three different universities without physically attending one. A participant suggested that university academics should be involved in income generation by delivering short courses offered through the Extended Learning programmes. It was also cautioned that third stream income generation should not be limited to entrepreneurial activity conducted by UKZN-owned companies but should also include the colleges and schools at UKZN.

*“That may happen down the line but let’s just look at the human resources that we have and try and nurture them to see how do we then – you know, as academics we are not business people and perhaps what needs to happen is that you let the academics do what academics do and maybe have a different side that can assist in terms of the business modelling and all of those things.” (P1 -I13)*

A participant stated that universities conduct commissioned research for industry without the research having an impact on profits or providing a competitive benefit to corporate funders. A participant stated that it is important to apply for research grants in groups with the requisite expertise. It was noted that a large portion of the third stream income is generated from statutory bodies like the National Research Foundation (NRF) and the Water Research Commission (WRC) and very little comes from the private sector. The participant went on to state that a significant amount of third stream income comes from international funders for projects in HIV and TB. Therefore, third stream income at UKZN comes from narrow funding streams.

*“With older professors, there [are] more skills, they are more resilient, and they can generate international grants.” (P1 – I 12)*

A participant stated that third stream income can be generated from consultancy, student entrepreneurship, intellectual property, and commercialisation. It was felt that a huge opportunity exists in offering consulting services to develop economic forecasts and trend analysis for large corporates. One of the participants identified conducting career assessments for external communities as a service that could raise third stream income. Accessing funding from SETAs (Sector Education Training Authorities) was also identified as a way to access large amounts of funding for a variety of disciplines and UKZN is highly active in some sectors. The participant qualified that the university was able to access R300 000 per learner for chemistry students to undergo glass blowing training, and the construction SETA has funded bursaries for engineering

students and work-integrated learning programmes. This is over and above the ETDP SETA, which funds staff training.

*“None of those guys realised that we were sitting on a hotbed of money if we just simply go out there and do economic forecasts for some of the large companies or consulting for large companies.” (P1 – I 1)*

A participant explained how well positioned and strategic the UKZN business school is to generate profits by delivering short-course programmes and cited the Management Development Programme as an example. It was suggested that university assets be monetised and that the latent facilities be utilised during slack periods, including university recess. In difficult financial times, universities need to build and capacitate themselves. Students who graduate from the institution should perform community service or internships and receive refresher training before writing their professional examinations. Customised education was identified as a good source of revenue, especially for individuals who are required to maintain professional status.

*“So, we now need to think about how we break up the system of the curricula – make it intellectually robust but also malleable, which means the people can pick sections of it and go in and out as their lives oscillates.” (P1 – I 8)*

A participant identified the establishment of a medical consortium as a very lucrative source of third stream income and went on to justify that the WITS medical consortium attracts high turnover. The participant also felt that a medical consortium established within the structure of UKZN would help manage and regulate the private work of UKZN-employed clinicians. It was felt that academics who are clinicians and have private practices should contribute part of their income from private practice. A participant stated that KRISP, which stands for KwaZulu Natal Research and Innovation Sequencing Platform, is a centre under the School of Laboratory Medicine. KRISP offers services in the sequencing of different kinds of organisms as well as conducting bioinformatics analysis to generate third stream income and help create research and academic collaborations.

*“One way is to – within the medical school create a sort of platform that will result in a medical consortium. So, we have our specialists working within the university.” (P1 – I 3)*

It was felt that UKZN has high research productivity, and some world-class work is being done, which serves as motivation to build best practices in the respective areas. A participant stated that most of the support provided at UKZN was for the third stream income and did not provide much assistance with writing grant applications. An observation was that UKZN shares several calls for grants on the notification system and many of the grants require cross-disciplinary teams. It was perceived that UKZN submits applications with the bias of using one discipline or sector and it is rare to see a cross-disciplinary team submitting a grant application. The participant went on to say that some academics are being excluded from grant applications because of differences in personalities. It was felt that there needed to be a more inclusive process with additional support to develop research grants across the university and promote increased participation by academics.

*“We need to reposition the research office to be able to not just make academics aware of opportunities but to also support them to leverage on those opportunities.”*

*(P1 – I 5)*

A participant stated that they have been successful with various grant applications from both local funding organisations such as NRF, MRC and MINTEC and international funders. It was advised that government departments offer funding for research, consultancy and other expert-commissioned work at a national level. Large international grants can be sourced from the European Union and foundations. A participant felt that some academics do not have the necessary skills to manage large international grant projects. For an academic to demonstrate previous grant success, it is recommended that the academic build a track record by achieving successful research projects, demonstrating expertise, and having supervised students.

*“They are here to do as little teaching as they can and to publish and to get some grants to allow them to publish, but with very few deliverables.”* (P2 – FG1)

A participant stated that grant funding has a direct and indirect positive financial impact on the university. A direct benefit is the amount raised by funds that go to the university for the use of space, facilities and equipment. An indirect benefit is the employment of researchers, the provision of bursaries, payment for the running costs of projects and payments to staff and students. However, some grants prevent the university from billing for overhead costs. Although publications bring in about R200 000 per paper and a small percentage goes to academics, this method of accumulating third stream income is not enough.

*“But indirectly, remember that the grants are also employing people, it's providing bursaries and running costs for students and staff.” (P1 – I 3)*

A participant classified research grants as statutory and non-statutory forms of income contributing to third stream income. In addition, another participant claimed that some research grants, like the Wellcome Trust, can be classified as third stream income, but core funding for research from the government will be a subsidy. A participant stated that the Erasmus grant makes a valuable contribution to the university's efforts in community engagement. The university has promoted this effort and been part of the application for the Erasmus Plus Grant with Shala University, Latvia University and the Natural Science University SEDEHLE in Poland and a university in Sao Paulo. The participant clarified that this must be considered third stream income because it allows UKZN staff to access fully funded opportunities to spend time in Europe and gain international teaching experience.

*“The Erasmus plus grant with Shala University, Latvia University, the natural science university SEDEHLE in Poland but that's still haggling, and we are presently doing it with Sao Paulo. Now, why am I seeing it as third stream income – because with that exchange what is happening is, we cannot access Erasmus funds, they can.” (P1 – I 11)*

### **6.6.5 Academic workload**

Academics at UKZN are constantly bombarded with responsibilities, and they are searching for strategies to do things better and survive within the performance management system. A participant stated that the performance management system should be revised to include acknowledgement of group efforts. To get a bonus, academics were expected to work towards meeting points on the performance management system, which includes publishing, supervision and applying for grants in the KPA of academics. The performance management system is currently geared for individual development, which involves getting publications. Everyone must do the same thing and there is no flexibility. It was claimed that when the college model was introduced, academics would be relieved of some duties when engaging in third stream income generation. This has not happened, and the university has also done away with the qualification coordinators. The university also insisted that all academics are required to get a PhD. qualification. It was stated that in the health sciences, the KPA for third stream income does not exist and although discussed at meetings, it is not considered a priority. A participant also stated

that the UKZN performance management system promotes and recognises the efforts of individuals and has set up individual awards that are biased.

*“Just look at our performance management system, which I think is a good thing. Every single year it changes. And me looking at it as a very positive thing I’m beginning to think of it as a negative thing.” (P1 – I 10)*

A participant said that UKZN could not monitor what it could not measure because of its performance management system. Therefore, it is important to include third stream income generation in the KPAs of academics at UKZN. Some colleges at UKZN tried to include third stream income into the KPAs of academics, but they were met with resistance. Some staff at UKZN are of the opinion that they were not employed to generate third stream income, but the reality is that it is the university’s goal, so it should be added to the KPAs.

*“Those things are quantifiable. Go for a grant – you said it might fall under third stream income – but those things, they are there in your KPA. In health sciences, for example, there’s no KPA around third stream income.” (P2 – FG 2)*

*“I still believe in the old-fashioned belief of a university as a public good. It should be funded by the state.” (P4 – FG 1)*

A participant felt that the line of sight, which is a performance management tool, aligns people’s performance to the strategic goals of the organisation and the annual performance plan of the institution. It was stated that the problem with the line-of-sight model is that the decision rests on the engagement between the line manager and the academic in ensuring that the indicators align with the annual performance plan. A participant suggested that UKZN has a very sophisticated performance management system that is driven by the human resources department and involves evaluation criteria; however, third stream income is not one of the criteria. A participant felt that if third stream income was factored into the performance criteria and managed, there would be an improvement in delivery.

*‘So, we are trying to move away from the “silo” mentality where it’s only about myself. It’s now more about the collective. So that’s the line-of-sight principle.” (P1 – I5)*

A participant felt that the goal posts at UKZN change all the time. Every year something new is added; for example, the performance management system, which initially looked good and

positive, is now being viewed negatively and as cumbersome. It was claimed that the performance management system is now creating paranoia and a burden to administer. and in the engineering department there is ECSA (Engineering Council of South Africa) compliance that is required and additional layers of administration; it is like jumping through hoops and it is constraining and demanding.

*“Just look at our performance management system, which I think is a good thing. Every single year it changes.” (P1 – 10)*

A participant stated that the performance management system has become a siloed and selfish system where academics are only looking at how to achieve their KPIs and get promoted. It was said that this is harming the system because it is no longer about quality but rather a numbers game based on the number of publications produced. The expectation looks at how well the institution has done based on a series of about forty key indicators that are straight out of the strategic plan. It was noted by a participant that the focus is on what contribution academics have made to the university which includes third stream income and the type of citation index. A participant said that the new approach factors in contributions to the school, college and university and then the individual academic is weighted accordingly. It was iterated by the participant that the approach is trying to move away from the silo mentality and look at the collective. A participant felt that this introduced much more flexibility in the performance management system. The system also looks at things from a developmental context to determine what the gap is and what needs to be done to close the gap. A participant advised that the RAM Model at UKZN looks at productivity and performance management is calculated as a score that can be converted to cash.

*“I don’t know if you’ve heard of the RAM model, it’s a university model where they look at your productivity, PUs and then they get to some figure and then they convert it to cash.” (P3 – FG3)*

A participant stated that a great deal of unfairness is allowed in the performance management system. Academics chase points and ask to be included in academic papers. The university performance management system is promoting an individualistic system. It is a terrible system that has been proven not to work and academics are exhausted. The academics are forced to write grant applications and produce patents, resulting in a flawed system.

*“I know we tried to do that with performance management, but maybe to some extent its – because we are running after the scores and so on, it may not be working very well.” (P1 – I 12)*

A participant felt that academics adopt a very conservative approach to how they earn their money and prefer to limit this to teaching and research. The academics research output requirements for performance management constrain their ability to engage in entrepreneurial activities. It was clarified by a participant that academics are responsible for packaging knowledge, and they need to continuously reflect on the specialised knowledge. It is therefore important that academics are aware of what is happening in other disciplines. A participant claimed that universities produce new knowledge through research, which is the responsibility of academics. It was stated that academics should commercialise innovations in partnership with industry and this could bring in a significant source of income to the university. A participant stated that academics have national and international networks, and it is important to introduce UKZN academics into those groupings.

*“Most universities produce new knowledge and new research which they should commercialise and transfer to industry and commerce.” (P1 – I 4)*

#### **6.6.6 Supportive environment**

A participant felt that to be involved in third stream income activities, an academic would need a support system and cited the UKZN Foundation as having a system that matches projects to funders, access to a project manager and a finance person to assist with developing proposals and managing finances. It was stated that the research office is promoting the agenda for academics to be entrepreneurial and undertake commercialisation of intellectual property. In a capitalist system with less stringent policies and rules governing output and revenues, it would be more likely that entrepreneurship and commercialisation would thrive. This would stimulate creative entrepreneurial thinking and encourage the entrepreneurial process among academics to grow rather than placing emphasis on what benefit would accrue to the university.

*“There are systems that can be built to support that. But it’s crucial, getting back to third stream income, that’s what higher education institutions should do, is generate new knowledge, new research, and new technology.” (P1 – I 4)*

### 6.6.7 Organisational values

To leverage social capital in an organisation, it is important to establish a value system that resonates with the ethos of the organisation and its employees. A participant stated that the value system must resonate with the academics so that they can identify with the objectives. It was advised that a value system must be developed in consultation with employees so that subscription to the values is organically adopted, requiring less effort to promote. Communication of the value system is important; it must be understood by every person in the organisation and therefore should always be visible. It was stated that UKZN has the REACH<sup>T</sup> value system, which can be found at strategic places across the university. It was noticed that black colleagues are more emotionally intelligent than white colleagues. It was suggested that this was attributed to culture, tradition and socialisation within a particular value system. A participant stated that it is important that the leadership of the organisation serve as role models and lead by example to convey the values and ethics of the organisation.

*“The system is good but it’s trying to get the people to interact with the system. I haven’t had much interaction with the system as such but if I look at it and the brief interaction I’ve had, I can see that the university is trying.” (P1 – I 10)*

The participant said that the Private Remunerative Work Policy is a flawed system because the academic can complete the declaration and claim to be doing extramural work outside of normal time. However, the participant could be doing the work during working hours and using university equipment. A participant also felt that the UKZN third stream income system has a bias as some colleges have grant managers who support researchers, while other colleges are dependent on academics to write proposals. It was stated that the UKZN system has too many restrictions and is very inefficient to support third stream income. The processes in terms of intellectual property, supply chain and finance are not efficient and they are not understood by most of the academics. A participant stated that the Dean of the division is promoting third stream income, but the problem with the system at UKZN is that divisions like Extended Learning are custodians of short courses. There needs to be some discussion within the university to see how third stream income can be offered through the colleges. A participant stated that it is important to have policies, but the policies must not be restrictive. It was suggested that if an academic wants to teach or counsel students, they should be allowed to do so, as they understand their strengths and should not be forced to do a PhD. It was mentioned that the system forces everyone to do the same thing and does not look at developing academic strengths.

*“That’s one of the things that you create, a collaborative climate or a collegial climate where people can actually do what they love to do.” (P4 – FG 1)*

## **6.7 Summary**

The qualitative analysis shows that emotional intelligence is important to academics engaging in third stream income when collaborating with peers. It was viewed as the ability to use emotions to learn, grow and build better relationships to engage in and collaborate on third stream income initiatives. Emotional intelligence was viewed as an evolving tool that is used as a point of reference in emotional engagement but also grows through the process of symbiosis. Emotional intelligence was identified as a crucial factor in improving entrepreneurial collaboration. Social capital was also identified as an important contributor to facilitating third stream income through the sharing of networks, information, skills and intellectual resources. The analysis also showed that third stream income is critical for the sustainability and advancement of UKZN. The analysis provided several intuitive suggestions on how emotional intelligence can be used to facilitate the growth of social capital for third stream income generation. It was suggested that this can be achieved formally through interventions on developing emotional intelligence, creating and promoting social spaces and building the fundamental core in terms of values, norms and ethics, which should be enshrined in trust, integrity, and honesty. It was also suggested that academic leadership plays a vital role in third stream income generation. Executive leadership at UKZN should look at interventions to build the emotional intelligence of senior and middle leadership at UKZN and build social capital for third stream income generation. The qualitative analysis provided good insight to construct the questionnaire to further interrogate the details that need to be addressed to build the emotional intelligence of academics at UKZN to promote entrepreneurial social capital for third stream income generation.

## **CHAPTER 7: PRESENTATION OF QUANTITATIVE RESULTS**

### **7.1 Introduction**

This chapter presents the data that was produced from 100 questionnaires that were answered via an online survey. The research instrument consisted of 104 items, with a level of measurement at a nominal or ordinal level. The questionnaire was divided into three major sections, which measured various themes as illustrated below:

- 1 Biographical data
- 2 The influence of emotional intelligence and social capital on third stream income
- 3 Emotional intelligence domains and associated competencies

The sections were further sub-divided into sub-sections. The chapter introduces the statistical model that was used to analyse the data using the statistical software SPSS Statistics 26.0 (Released August 2018) and RStudio. The chapter was constructed using the themes that were generated by the software and tables and graphs to illustrate the findings. The data is then used to explain the findings.

### **7.2 Biographical data**

This section uses graphs and tables to describe the biographical data of the respondents in this study. It depicts the age, gender, academic leadership position, race, academic level, contractual employment status, number of years of service, academic qualifications, professional levels and location in schools.

*Table 7.1 Representation of the respondents' age group by gender.*

Age (years)		Gender		Total
		Male	Female	
21 - 35	Count	5	8	13
	% within Age (years)	38.5%	61.5%	100.0%
	% within Gender	8.5%	19.5%	13.0%
	% of Total	5.0%	8.0%	13.0%
36 - 45	Count	19	12	31
	% within Age (years)	61.3%	38.7%	100.0%
	% within Gender	32.2%	29.3%	31.0%
	% of Total	19.0%	12.0%	31.0%
46 - 55	Count	18	13	31
	% within Age (years)	58.1%	41.9%	100.0%
	% within Gender	30.5%	31.7%	31.0%
	% of Total	18.0%	13.0%	31.0%
56 - 65	Count	13	7	20
	% within Age (years)	65.0%	35.0%	100.0%
	% within Gender	22.0%	17.1%	20.0%
	% of Total	13.0%	7.0%	20.0%
> 65	Count	4	1	5
	% within Age (years)	80.0%	20.0%	100.0%
	% within Gender	6.8%	2.4%	5.0%
	% of Total	4.0%	1.0%	5.0%
Total	Count	59	41	100
	% within Age (years)	59.0%	41.0%	100.0%
	% within Gender	100.0%	100.0%	100.0%
	% of Total	59.0%	41.0%	100.0%

Table 7.1 indicates that the ratio of males to females is approximately 3:2 (59.0%: 41.0%) ( $p = 0.072$ ). Within the age category of 36 to 45 years, 61.3% were male and 38.7% were female. Within the category of males (only), 32.2% were between the ages of 36 and 45 years. Within the category of females (only), 29.3% were between the ages of 36 and 45 years. This category of males between the ages of 36 and 45 years formed 19.0% of the total sample, and females made up 12% of the total sample. The age distributions are not similar, as there are more respondents younger than 55 years ( $p < 0.001$ ). The majority of the respondents are between 36 and 55 years and males contribute a larger percentage compared to females. It must be noted that 50% of the data is within the above-mentioned age interlude.

*Table 7.2 Frequency of academic level of the respondents*

<b>Academic level</b>	<b>Frequency</b>	<b>Percent</b>
Full Professor	20	20.0
Associate Professor	22	22.0
Senior Lecturer	24	24.0
Lecturer	32	32.0
Other	2	2.0
Total	100	100.0

Table 7.2 shows that from the number of respondents, the highest contributors to the study are lecturers (32%) followed by senior lecturers (24%), associate professors (22%) and full professors (20%) while the lowest is other (2%). The total of 98% of the respondents came from academics, which is a strong indication that the response came from the desired sample population of the study and therefore substantive information can be extracted from the data.

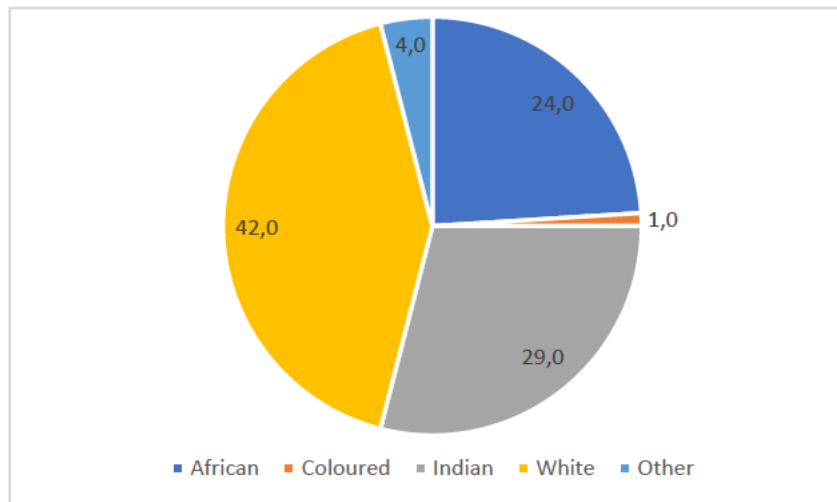
*Table 7.3 Cross tabulation of age and employment status of the respondents*

		Employment status			Total
		Permanent Academics	Fixed Term Contract Academics	Other	
Gender	Male				
	Count	51	2	6	59
	% within Gender	86.4%	3.4%	10.2%	100.0%
	% within Employment status	56.7%	100.0%	75.0%	59.0%
	% of Total	51.0%	2.0%	6.0%	59.0%
	Female				
	Count	39	0	2	41
	% within Gender	95.1%	0.0%	4.9%	100.0%
% within Employment status	43.3%	0.0%	25.0%	41.0%	
% of Total	39.0%	0.0%	2.0%	41.0%	
Total	Count	90	2	8	100
	% within Gender	90.0%	2.0%	8.0%	100.0%
	% within Employment status	100.0%	100.0%	100.0%	100.0%
	% of Total	90.0%	2.0%	8.0%	100.0%

Table 7.3 shows that 51% of males with permanent academic employment status responded to the online questionnaire, which was the largest number of respondents contributing to the study. In comparison, 39% of female respondents who had permanent academic employment status responded to the online questionnaire. This was a reasonable distribution between male and female

academics for the responses to provide an indication of contributions from both genders. Furthermore, 90% of the population were permanent academics, 2% were employed on fixed-term contracts and 8% had other forms of contractual employment.

### Composition of the sample by race



*Figure 7. 1 Pie graph of racial composition of the sample*

The majority of the respondents were White (42%), with a little less than a third being Indian (29%). Africans comprised approximately a quarter of the sample at 24%, with Coloureds and Other forming 5% of the sample.

### 7.3 Analysis

The section that follows analyses the scoring patterns of the respondents per variable per section. The results are first presented using summarised percentages for the variables that constitute each section. The results are then further analysed according to the importance of the statements.

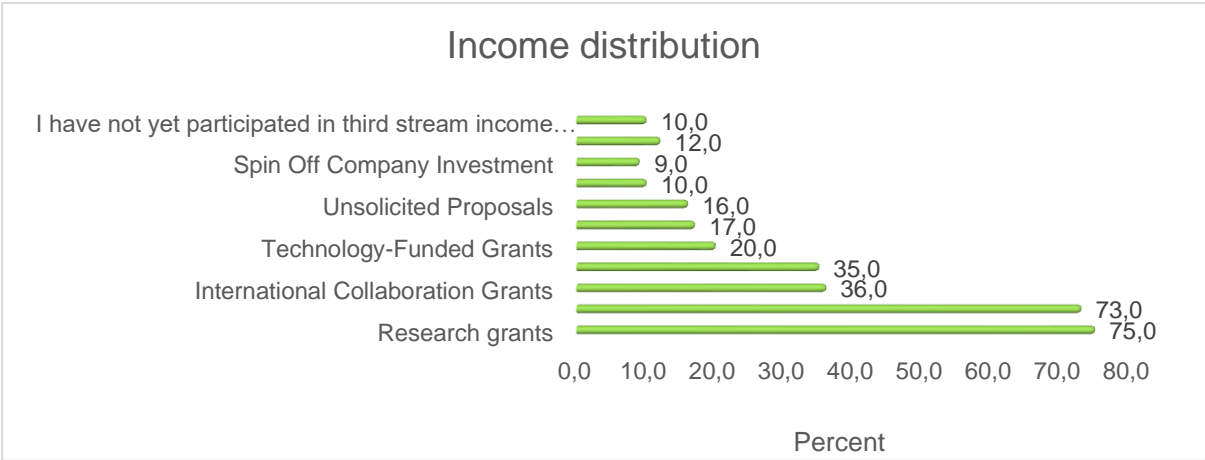
7.3.1: Research questionnaire for UKZN academics on the influence of emotional intelligence and social capital on third stream income.

*Table 7. 4 Respondents’ participation in HEI third stream income initiatives*

	Frequency	Percent
Yes	83	83.0
No	17	17.0
Total	100	100.0

A significant proportion of the respondents (83%) had participated in third stream income. It is a good indication that the respondents who participated understand the nature and contribution of third stream income to UKZN.

**Participation in income-generating activities**

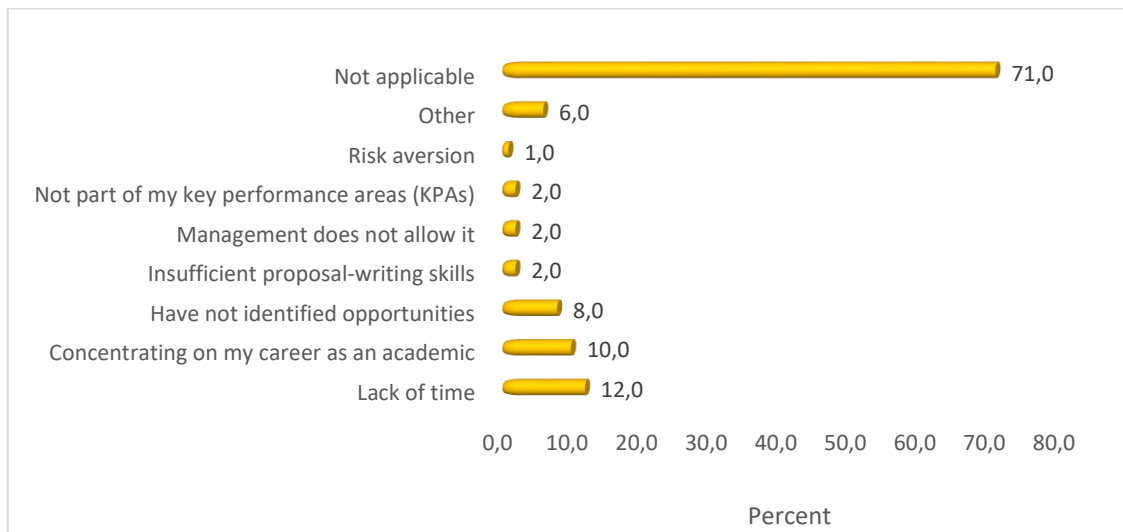


*Figure 7. 2 Participation in income-generating activities*

Figure 7.2 above indicates the types of third stream income that respondents have participated in at a higher education institution (multiple responses were allowed).

Research grants and international collaboration grants contribute substantially to the institution, as they contribute 75% and 73%, respectively. The spinoff company investment has the lowest contribution at 9%. If respondents had not participated in third stream income, the following reasons were identified (multiple responses were allowed).

### Barriers to participation in third stream income



*Figure 7.3 Barriers to participation in third stream income*

It is evident from Figure 7.3 above that 71% of the respondents stated that the question was not applicable, and this could be understood as meaning that if academics wanted to participate in third stream income activities, they would make the necessary adjustments to alleviate factors that hinder their participation in third stream income. The other significant barriers to participation in third stream income were the lack of time (12%), academics focusing on professional development (10%), and the inability to identify opportunities (8%).

*Table 7. 5 Themes*

Section		Name	Number of Items	Cronbach's Alpha
2	A	Networking	2	0.759
	B	Entrepreneurial Culture	9	0.888
	C	Interpersonal Relations	6	0.720
	D	Entrepreneurial Development	3	0.796
	E	Personal Strengths	6	0.846
	F	Entrepreneurial Leadership	2	0.044
	G	Academic Workload	2	0.544
	H	Entrepreneurial Knowledge	3	0.743
	M	Concerns / Shortcomings	6	0.705
3	X	Emotional Intelligence	10	0.829
	Y	Leadership Traits	3	0.606
	Z	Team Player	5	0.719
Overall			62	0.815

The reliability scores for all sections exceed the recommended Cronbach's alpha value. This indicates a degree of acceptable, consistent scoring for these sections of the research. Only section F had a low score. This was mainly due to the section having the minimum number of statements, with the statements being bi-directional. The overall Cronbach's alpha was 0.815. The table above indicates the themes the SPSS software identified in sections two and three of the questionnaires, and the alphabets provide consistent labelling of the theme throughout the analysis; for example,

the letter A indicates the theme Networking and the same holds for the rest of the alphabet in the table above and the corresponding themes.

*Table 7. 6 Themes according to Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's Test of sphericity.*

	Section	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
			Approx. Chi-Square	df	Sig.
A	Networking	0.537	63.119	6	0.000
B	Entrepreneurial Culture	0.911	396.647	36	0.000
C	Interpersonal Relations	0.774	113.837	15	0.000
D	Entrepreneurial Development	0.646	106.444	3	0.000
E	Personal Strengths	0.798	265.944	15	0.000
F	Entrepreneurial Leadership	0.500	0.049	1	0.825
G	Academic Workload	0.500	14.646	1	0.000
H	Entrepreneurial Knowledge	0.655	79.515	6	0.000
M	Concerns / Shortcomings	0.710	159.626	15	0.000
X	Emotional Intelligence	0.870	381.424	45	0.000
Y	Leadership Traits	0.628	23.670	3	0.000
Z	Team Player	0.745	93.458	10	0.000

All conditions are satisfied for factor analysis. That is, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy value should be greater than 0.500 and the Bartlett's Test of Sphericity sig. value should be less than 0.05. Only section F did not meet the conditions for sphericity, as explained earlier.

## **7.4 Networking**

The section on networking sought to determine the level of academics' participation in collaboration and networking at UKZN and how amenable the respondents are to sharing information on networks. The analysis below determines patterns with respect to collaboration and networking and the factors that can be identified to facilitate networking among academics at UKZN.

*Table 7. 7 Collaboration and networking by academics*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S2.1.4.1	<b>I have collaborated with other UKZN academics in third stream income activities.</b>	A1	14	14.0%	6	6.0%	10	10.0%	37	37.0%	33	33.0%	< 0.001
S2.1.4.4	<b>I believe that I possess valuable expertise and networks that can benefit third stream income initiatives at UKZN.</b>	A2	5	5.0%	3	3.0%	11	11.0%	46	46.0%	35	35.0%	< 0.001
S2.1.4.5	<b>I believe in sharing my expertise and networks with UKZN academics for the purpose of third-stream income generation.</b>	A3	3	3.0%	4	4.0%	19	19.0%	45	45.0%	29	29.0%	< 0.001
S2.1.4.3	<b>I mostly collaborate with academics in my College/ School/ Discipline/Unit.</b>	A4	8	8.0%	17	17.0%	19	19.0%	38	38.0%	18	18.0%	< 0.001

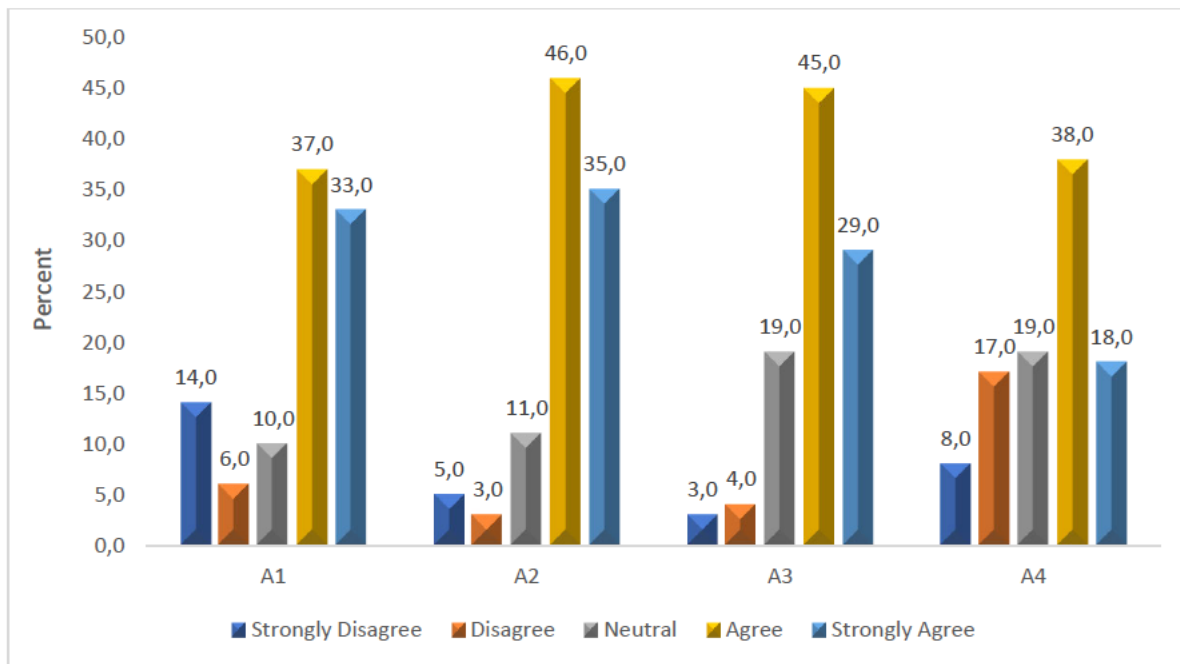
The computed p-value is less than 0.05 which means that the response is statistically significant.

It has been found that 70% of the respondents collaborated with other academics at UKZN on third stream income activities. The results show that 37% agreed to collaborating with other academics, followed by 33% strongly agreed and the lowest 3% disagreed indicating a small percentage of the respondents did not collaborate with other academics on third stream income initiatives.

In Table 7.7 above, 81% of the respondents indicated that they believe that they have the necessary expertise and networks to contribute to third stream income initiatives. This was made up of 46% who agreed to the second statement and 33% who strongly agreed. A small percentage of 3% felt that they do not have the necessary expertise or networks to participate in third stream income and are concentrating on their professional development. The scoring patterns are significantly different, with more respondents agreeing.

A similar trend is observed, with respondents indicating that they are willing to share their networks with academics at UKZN to foster third stream income. The results show that 45% of the respondents agree and 29% strongly agree to share networks for the purpose of third stream income generation and only a small percentage strongly disagree (3%). The respondents who do not agree with sharing networks could be from highly specialised fields and may not feel that the networks would benefit other academics, or they could be generating high-value funding from their networks and protecting their income stream.

Respondents showed a strong preference for collaborating with academic peers from their own college, school, or discipline, with 56% indicating that this was their nature of collaboration with 38% agreeing with the statement and 18% strongly agreeing. This can be attributed to their familiarity with the nature of their work and expertise their peers engage in or the proximity of the relationship and having the opportunity to communicate with peers. It is also possible that the respondents understand the field of work and can identify the opportunity for collaboration. Table 7.7 shows that 19% of the respondents preferred a neutral response, which could be the result of underlying personal or professional competition or conflict. It was also noted that 25% of the respondents stated that they do not collaborate with peers from their college, school, or discipline. This can also be interpreted as meaning that these respondents prefer to work on their own to advance their professional progress.



*Figure 7. 4 Collaboration and networking of academics*

Figure 7.4 depicts the collaboration and networking of academics at UKZN. There is a strong indication that there are high levels of networking and collaboration among academics and academic UKZN

Factor analysis shows that the following two statements form a sub-theme:

**I believe that I possess valuable expertise and networks that can benefit third stream income initiatives at UKZN.**

**I believe in sharing my expertise and networks with UKZN academics for the purpose of third-stream income generation.**

There are high levels of agreement in relation to this sub-theme, which can be categorised as “Networking”. There are similar levels of scoring for both statements, with similar and higher levels of agreement. Respondents believe that their networking contacts can be beneficial to the university. In determining whether the scoring patterns per statement were significantly different per option, a chi-square goodness of fit test was done. The null hypothesis claims that similar numbers of respondents scored across each option for each statement (one statement at a time). The alternate states that there is a significant difference between the levels of agreement and disagreement. The results are shown in Table 7.7

## Overall analysis:

Across the four statements, the following was observed,

- ✓ All statements show significantly higher levels of agreement, while other levels of agreement are lower (but still greater than levels of disagreement).
- ✓ There are no statements with higher levels of disagreement.
- ✓ The statistical significance of the differences is tested and shown in the table with the aid of the chi-square goodness-of-fit test using the p-value.
- ✓ In conclusion, the academics have proper networks for funding at UKZN.

## 7.5 Entrepreneurial Culture

This section gives details about entrepreneurial culture at UKZN for each sub-theme with the corresponding level of agreement against each statement. Hypothesis testing will be used to determine whether the statement is significant or not at a 5% level of significance.

*Table 7.8 Entrepreneurial Culture*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S2.1.4.6	<b>The culture among UKZN academic staff is conducive for collaboration on third stream income activities.</b>	B1	12	12.0%	31	31.0%	32	32.0%	21	21.0%	4	4.0%	< 0.001
S2.1.4.8	<b>I believe that I can trust academic peers at UKZN when working on collaborative projects.</b>	B2	4	4.0%	7	7.0%	28	28.0%	46	46.0%	15	15.0%	< 0.001
S2.1.5.7	<b>I find that the UKZN academic leadership creates opportunities for academic staff to build</b>	B3	22	22.0%	35	35.0%	28	28.0%	13	13.0%	2	2.0%	< 0.001

	<b>entrepreneurial personality traits.</b>													
S2.1.5.8	<b>There is a high level of third-stream income collaboration among academic staff at UKZN.</b>	B4	15	15.0%	41	41.0%	32	32.0%	11	11.0%	1	1.0%	< 0.001	
S2.1.5.9	<b>Academic leadership at UKZN creates opportunities to motivate academic staff to be entrepreneurs.</b>	B5	23	23.0%	38	38.0%	31	31.0%	7	7.0%	1	1.0%	< 0.001	
S2.1.5.10	<b>UKZN promotes a culture of innovation and entrepreneurship among academic staff members.</b>	B6	21	21.0%	33	33.0%	31	31.0%	12	12.0%	3	3.0%	< 0.001	
S2.1.5.21	<b>I believe that academic leadership at UKZN promotes a favourable culture to grow third stream income.</b>	B7	18	18.0%	31	31.0%	34	34.0%	16	16.0%	1	1.0%	< 0.001	
S2.1.5.22	<b>I believe that the academic leadership at UKZN is willing to listen to proposed entrepreneurial opportunities.</b>	B8	14	14.0%	15	15.0%	42	42.0%	27	27.0%	2	2.0%	< 0.001	
S2.1.5.27	<b>There are sufficient capacity building interventions to support academic staff who want to engage in entrepreneurship at UKZN.</b>	B9	17	17.0%	33	33.0%	32	32.0%	18	18.0%	0	0.0%	0.029	

The observed trend is as follows:

It is evident from Table 7.8 above that a large percentage (63%) of the respondents felt that the culture at UKZN is not conducive for collaboration on third stream income, which was reflected in 32% of the respondents not agreeing with the statement and a significant 31% of the respondents indicating a neutral response, which could be a result of the respondents fear of expressing their opinion. The neutral response could also be an indication that respondents

did not have sufficient evidence to convince them that UKZN promoted a culture of collaboration. Only a quarter of the respondents indicated that they felt that the culture at UKZN is conducive to collaboration, with 21% agreeing with the statement and 4% strongly agreeing, which reflects that a very small percentage of the respondents are convinced that a collaborative culture exists at UKZN.

There is a strong indication that respondents felt that they could trust academic peers when engaging in collaborative third stream income, with 46% of the respondents agreeing with the statement and 15% of the respondents strongly agreeing. This shows that 61% of the respondents have a trusting relationship with peers when collaborating on third stream income initiatives. More than a quarter of the respondents were neutral, which indicates that they do not trust peers when collaborating on third stream income initiatives or prefer to remain cautious when collaborating with peers. Only a small percentage of 11% felt that they do not trust academic peers when collaborating, with 4% strongly disagreeing and 7% disagreeing.

A significant percentage of the respondents felt that middle leadership at UKZN does not create opportunities for academics to build entrepreneurial personality traits. The table above shows that 57% of the respondents did not agree with the statement, 35% disagreed and 22% strongly disagreed. More than a quarter of the respondents (28%) chose to be neutral. Only a small percentage (15%) felt that middle leadership fosters the entrepreneurial traits of academics.

A significant number of the respondents felt that there was not a high level of collaboration among academics on third stream income initiatives; 41% disagreed and 15% strongly disagreed. This indicates that more than half the respondents did not agree with the statement and 32% chose to remain neutral as they may not have sufficient evidence to show that there is collaboration and only a small percentage (12%) felt that there is collaboration in third stream income initiatives.

A significant percentage of the respondents indicated that they did not feel that middle leadership at UKZN motivates academics to be entrepreneurial, with 38% disagreeing, 23% strongly disagreeing and 31% of the respondents being neutral. This means that 71% of the respondents were not convinced that UKZN middle leadership motivates academics to be entrepreneurial.

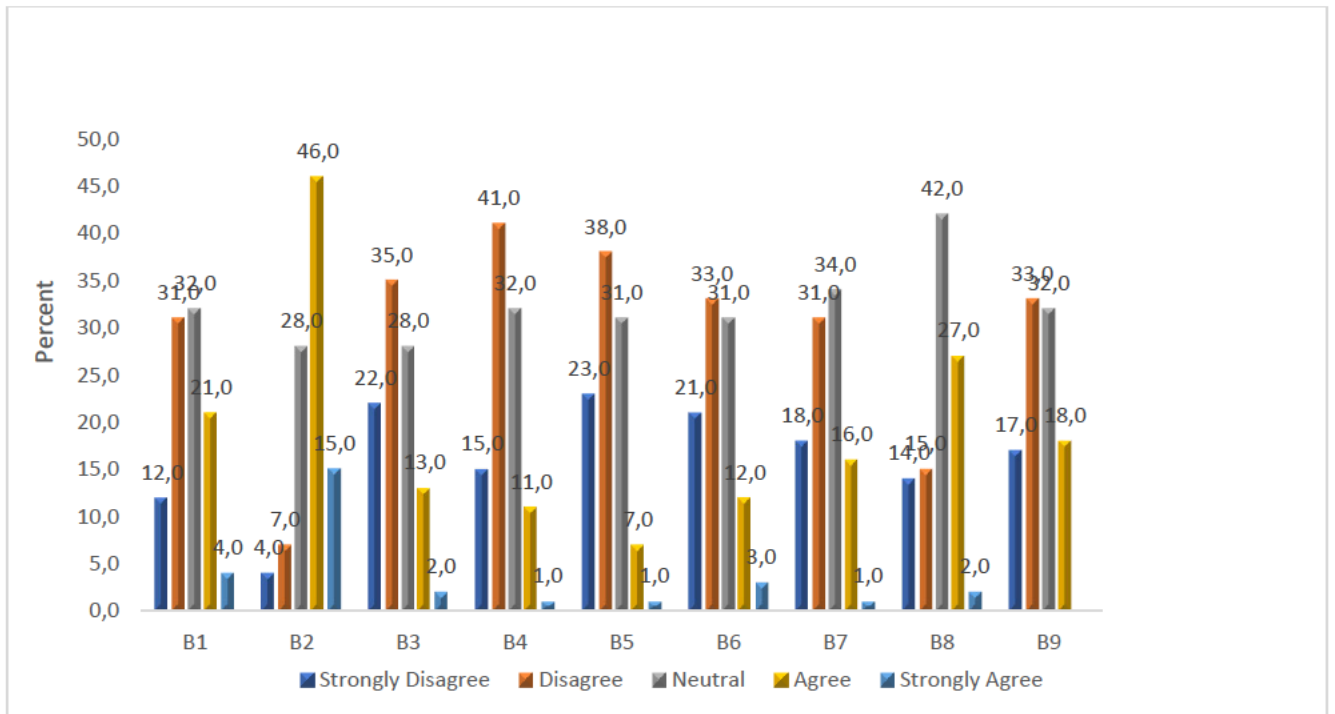
There is a strong indication that UKZN does not promote a culture of innovation and entrepreneurship among academics with more than half of the respondents sharing the

sentiment with 33% disagreeing, 21% strongly disagreeing and 31% of the respondents choosing to remain neutral. This indicates that 84% of the respondents were not convinced that UKZN promotes a culture of innovation and entrepreneurship.

Almost half of the respondents did not believe that UKZN middle leadership promoted a culture to grow third stream income, (31%) of the respondents disagreed with the statement (18%) strongly disagreed and (34%) of the respondents remained neutral.

Close to half of the respondents (42%) chose to remain neutral with respect to the statement that middle leadership is willing to listen to proposed entrepreneurial opportunities. This is an indication that respondents were not convinced by middle leadership or chose to remain neutral because of fear of victimisation. More than 71% of the respondents indicated that they were not convinced that UKZN's academic leadership was willing to listen to proposed entrepreneurial opportunities, which is a significant proportion of the respondents, or almost three quarters of the respondents.

In the table above, 50% of the respondents did not agree that sufficient capacity-building initiatives exist at UKZN to support academics who want to engage in entrepreneurship at UKZN; 33% of the respondents did not agree; 17% strongly disagreed with the statement; and 32% were neutral. None of the respondents strongly agreed with the statement, which is an indication that there is no strong indication of entrepreneurial capacity-building interventions.



*Figure 7. 5 Entrepreneurial culture*

A different mixture of trends has been observed: Out of nine statements, five (B3, B4, B5, B6 and B9) had higher levels of disagreement. While three (B1, B7 and B9) neutral responses are dominating, and lastly B2, agrees to have a huge response across all statements. Out of nine statements, eight statements have p-values that are less than the level of significance and B9 is statistically significant ( $p = 0.029$ ). Lastly, the entrepreneurial culture is the segment that will never make everyone happy.

## 7.6 Interpersonal relations

The section on interpersonal relations determined what factors and specialised knowledge were used to leverage power when collaborating with academic peers. It also assessed the trust factor when collaborating with academic peers and the interpersonal dynamics that influenced academic peer relations. The impact of diversity was considered in collaborative relations among academic peers. The importance of open communication and emotional intelligence was also determined to influence interpersonal relations. This section gives the distribution of the level of agreement per statement, and hypothesis testing was used to determine whether the statements are statistically significant at a 5% level of significance.

*Table 7. 9 Interpersonal relations*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Co unt	Ro w N %	Co unt	Ro w N %	Co unt	Ro w N %	Co unt	Ro w N %	Co unt	Ro w N %	
S2.1.4.12	<b>I feel it is important to use specialist knowledge to leverage power when collaborating with academic peers on third-stream activities.</b>	C1	3	3.0 %	5	5.0 %	22	22.0 %	47	47.0 %	23	23.0 %	< 0.001
S2.1.4.7	<b>I rate trust highly when collaborating with UKZN academic staff on third stream income activities.</b>	C2	5	5.0 %	0	0.0 %	15	15.0 %	45	45.0 %	35	35.0 %	< 0.001
S2.1.5.1	<b>I believe that I can deal with interpersonal dynamics existing between academics at UKZN.</b>	C3	6	6.0 %	13	13.0 %	23	23.0 %	52	52.0 %	6	6.0 %	< 0.001
S2.1.5.2	<b>I believe that diversity among academic peers adds new perspectives to collaborative third-stream income initiatives at UKZN.</b>	C4	2	2.0 %	7	7.0 %	10	10.0 %	52	52.0 %	29	29.0 %	< 0.001
S2.1.5.3	<b>I believe that UKZN academic staff engage in open dialogue to promote third stream income activities.</b>	C5	13	13.0 %	35	35.0 %	29	29.0 %	19	19.0 %	4	4.0 %	< 0.001
S2.1.4.9	<b>I live by the principles of emotional intelligence when engaging with academic peers.</b>	C6	2	2.0 %	6	6.0 %	14	14.0 %	51	51.0 %	27	27.0 %	< 0.001

It been found from the data above that 70% of the respondents agreed that specialist knowledge played a significant part in influencing the degree of power in interpersonal relations. The results show that 47% of the respondents agreed with the statement and 23% strongly agreed, 22% of the respondents were neutral and 8% disagreed with the statement.

Trust was considered amongst respondents as an important factor in promoting and maintaining interpersonal relations, with 80% of the respondents agreeing with the statement, 45% agreed

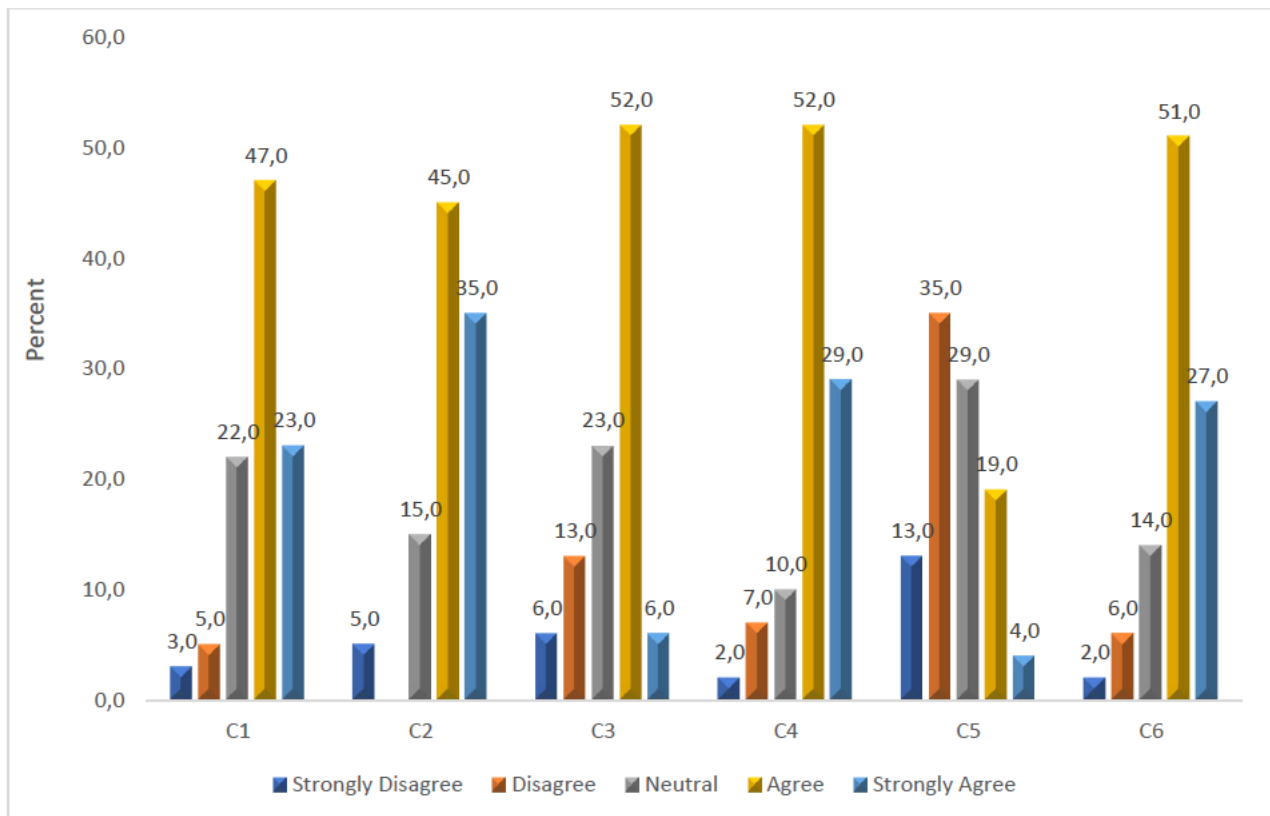
and 35% strongly agreed with the statement. Only 15% of the respondents remained neutral, with 0% disagreeing and 5% strongly disagreeing which could be an indication that this could not be inferred.

Most respondents (58%) agreed that they had the necessary competencies to deal with interpersonal dynamics, with 52% agreeing and 6% strongly agreeing. It was interesting to note that 23% were neutral, which could be an indication that they may lack self-confidence or self-esteem. It was also noted that 19% do not agree that they have the competencies to deal with interpersonal dynamics. It is an indication that there is potential to develop the 42% of the respondents who may lack the skill or confidence to manage interpersonal dynamics.

A significant percentage of the respondents (81%) agreed that diversity among academic peers promotes stronger collaborative effort in third stream income generation, with 52% agreeing and 29% strongly agreeing with the statement, with 10% remaining neutral and 9% of the opinion that diversity is not relevant in promoting collaboration in third stream income initiatives.

It was interesting to note that most respondents (35%) opted to be neutral with respect to UKZN academics engaging in open dialogue to promote third stream income. This could indicate a degree of mistrust among academic peers, with only 23% agreeing with the statement and almost half of the respondents (48%) indicating that they do not believe that UKZN academics engage in open dialogue to promote third stream income.

The majority of the respondents (78%) strongly agreed that they employ the principles of emotional intelligence when engaging with academic peers, which shows that they value the importance of emotional intelligence. Only 14% of the respondents were neutral and 8% did not agree that the principle of emotional intelligence is important to academic peer relations.



*Figure 7. 6 Interpersonal relations*

In the above figure, it is depicted that across all statements, agree shows the highest number of responses and strongly disagree has the least responses. This is a clear indication that specialist knowledge, trust, management of interpersonal dynamics, diversity, open dialogue, and emotional intelligence are significant in promoting interpersonal relations.

## 7.7 Entrepreneurial development

This section explores the relationship between the academic line manager and academics with respect to entrepreneurial support and development in promoting third stream income initiatives. This section entails the distribution of the response for entrepreneurial development and the corresponding p-value per statement to determine the significance of the statement.

*Table 7. 10 Entrepreneurial development*

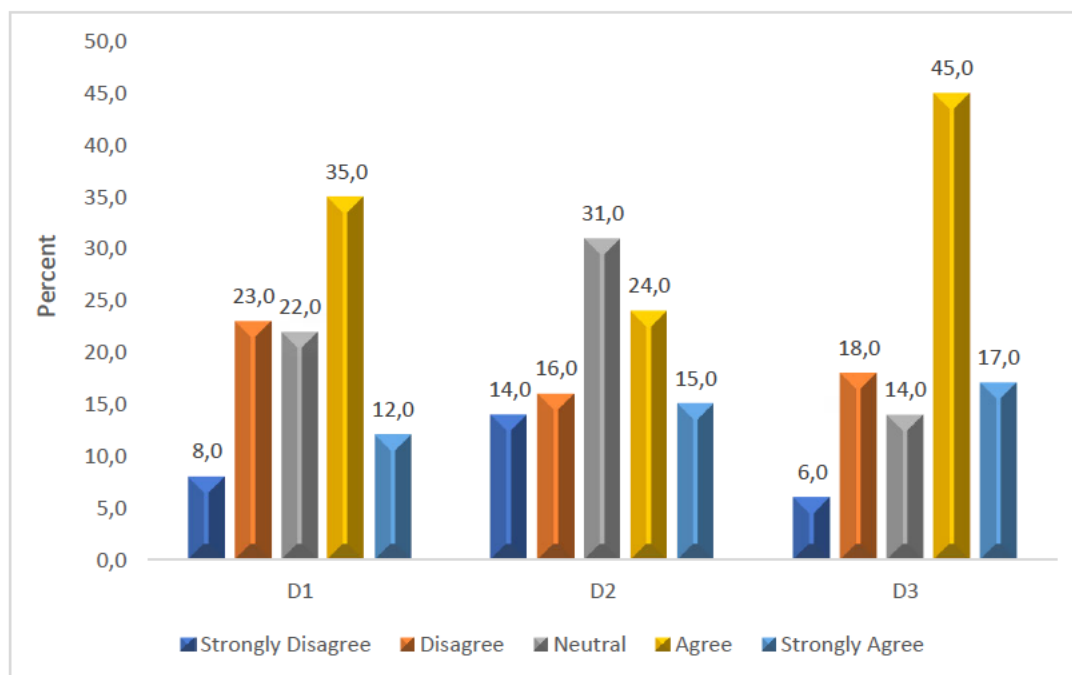
			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S2.1.5.4	<b>I believe that my line manager has effective interpersonal skills to promote collaboration among academic staff at UKZN to promote third stream income.</b>	D1	8	8.0 %	23	23.0 %	22	22.0 %	35	35.0 %	12	12.0 %	< 0.001
S2.1.5.5	<b>I find it easy to engage with my line manager at UKZN on third stream income opportunities.</b>	D2	14	14.0 %	16	16.0 %	31	31.0 %	24	24.0 %	15	15.0 %	0.030
S2.1.4.11	<b>I believe that my line manager understands third stream income activities come with increased responsibility.</b>	D3	6	6.0 %	18	18.0 %	14	14.0 %	45	45.0 %	17	17.0 %	< 0.001

It is evident from the table above that almost half of the respondents felt that their line manager had effective interpersonal skills to promote collaboration among academics to engage in third stream income activities, with 47% of the respondents agreeing with the statement. It is interesting to note that 22% remained neutral and this could be because the academic or line manager was new, or they were cautious in answering the question. It is also interesting to note that 31% of the respondents did not agree that their line manager had effective interpersonal skills. This indicates that there is a need for the development of interpersonal skills training for line managers.

A large percentage of the respondents (31%) remained neutral in response to the question that it was easy to engage with the line manager on third stream income opportunities. This could mean that the academics did not have the opportunity to engage with the line manager on the subject or that they do not have evidence to suggest that the line manager is approachable when

it comes to third stream income opportunities. The majority of the respondents (39%) indicated that their line manager is approachable when it comes to discussing third stream income opportunities. On the other end of the spectrum, 30% of the respondents indicated that their line manager is not approachable to discuss third stream income opportunities.

A large percentage of the respondents (62%) indicated that they believe that their line manager understands that third stream income activities come with increased responsibilities. This was made up of 45% of the respondents agreeing with the statement and 17% strongly agreeing. It was only a small percentage of the respondents (14%) who indicated a neutral position, and this may be due to a lack of engagement with the line manager on the subject; almost one quarter (24%) of the respondents indicated that their line manager was not cognisant that third stream activities come with additional responsibilities.



*Figure 7. 7 Entrepreneurial development*

Overall: Out of the three statements, the first and the last one had more responses on agree and strongly disagree with the least responses. Moreover, the second statement had more responses on neutral and disagree had the least.

## 7.8 Personal strengths

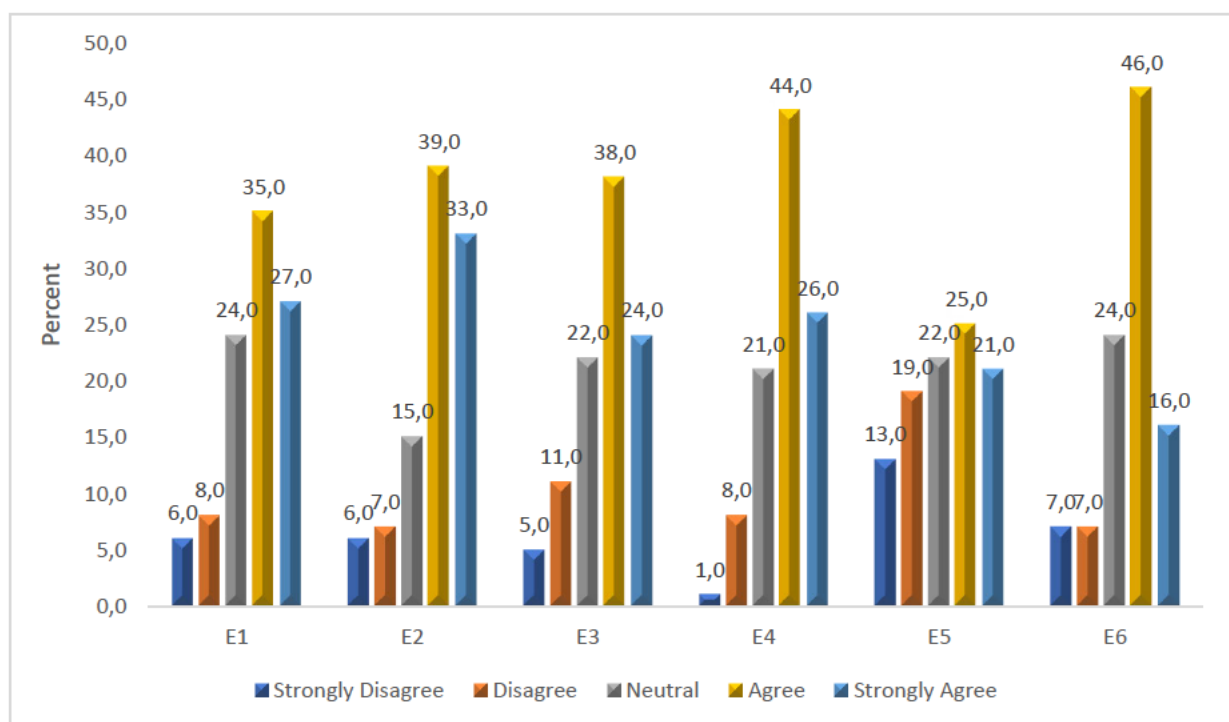
This section focused on the development of personal strengths of the academics and middle leadership at UKZN. It assessed the value of entrepreneurial and personal development and what criteria is required to develop personal, leadership and entrepreneurial traits of academics in promoting third stream income. This section deals with personal strengths level of agreement and the corresponding p-values to assess the statement's statistical significance.

*Table 7. 11 Personal strengths*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S2.1.4.13	<b>I believe it is important to develop an entrepreneurial mindset in the academic staff at UKZN.</b>	E1	6	6.0 %	8	8.0 %	24	24.0 %	35	35.0 %	27	27.0 %	< 0.001
S2.1.4.14	<b>I believe it is important to conduct emotional intelligence development for staff interested in pursuing third stream income initiatives at UKZN.</b>	E2	6	6.0 %	7	7.0 %	15	15.0 %	39	39.0 %	33	33.0 %	< 0.001
S2.1.4.15	<b>Team building is important to orientate UKZN academic staff prior to the start of all third-stream income initiatives.</b>	E3	5	5.0 %	11	11.0 %	22	22.0 %	38	38.0 %	24	24.0 %	< 0.001
S2.1.5.17	<b>I believe that academics need to engage in third stream income activities in the current economic climate, considering the challenges facing universities.</b>	E4	1	1.0 %	8	8.0 %	21	21.0 %	44	44.0 %	26	26.0 %	< 0.001
S2.1.5.23	<b>I feel that candidates applying for academic leadership positions at UKZN should undergo an entrepreneurial leadership</b>	E5	13	13.0 %	19	19.0 %	22	22.0 %	25	25.0 %	21	21.0 %	0.406

	<b>assessment as part of the academic appointment and promotion processes.</b>													
S2.1.5.28	<b>Academic staff at UKZN should be continuously developed in the field of entrepreneurial creativity and innovation.</b>	E6	7	7.0 %	7	7.0 %	24	24.0 %	46	46.0 %	16	16.0 %	< 0.001	

All but one statement (E5) shows significantly higher levels of agreement.



*Figure 7.8 Personal strengths*

**E1:** It is evident that most respondents believe that academics develop an entrepreneurial mindset, with 57% agreeing, 27% strongly agreeing with the statement and 35% agreeing. The results show that 24% of the respondents were neutral, which is a significant proportion that chose to remain neutral. This is an indication that these respondents may not understand the benefits of academics developing an entrepreneurial mindset. This provides an opportunity to use programmatic interventions to explain the benefits of academics developing an entrepreneurial mindset and developing these skills in these respondents. Of a small percentage of the respondents (14%), 6% strongly disagreeing and 8% disagreeing that academics need to develop an entrepreneurial mindset. These respondents may hold the view that the role and

responsibilities of academics are to focus on their core contractual responsibilities, which are to provide teaching and learning and conduct research to improve knowledge in their field of expertise and improve professional status.

**E2:** A significantly large proportion of the respondents (72%) supported the need to develop emotional intelligence among academics who are aspiring to participate in third stream income-generating activities. The study found that 39% strongly agreed and 33% agreed that emotional intelligence development would benefit academics wanting to participate in third stream income. It was found that emotional intelligence has a direct correlation to contributing positively to the pursuit of third stream income-generating activities. The results showed that 15% of the respondents chose to remain neutral, an indication that they do not understand or have insufficient information about how emotional intelligence can benefit academics in third stream income generation. Providing information on conducting workshops could allow an opportunity for this segment of university academics to develop an understanding of emotional intelligence and its benefits to academics engaging in third stream income activities. The study showed that of 13% of the respondents; 6% strongly disagreed and 7% disagreed that emotional intelligence has no benefit to academics participating in third stream income. These respondents could have viewed the nature of some opportunities as not requiring much human interaction like producing results from laboratory experiments. This may be a limited view as in any third stream income initiative, human engagement is necessary through the value chain of the third stream income-generating activities.

**E3:** The largest percentage of the respondents (62%) believe that it is important to conduct team-building development with a group, prior to the group collaborating on a third stream income project. Only 22% of the respondents were neutral and 16% of the respondents did not agree that team building would have an impact on improving group cohesiveness.

**E4:** The majority of the respondents (70%) agreed with the statement that academics should be involved in third stream income activities, given the current economic climate, to help support universities in challenging times. This is an indication that the majority of the respondents indicated that it is part of the responsibility of academics to be involved in raising third stream income for the university. Less than one quarter (21%) of the respondents remained neutral and 9% indicated that academics should not be involved in third stream income. The neutral grouping could be of the opinion that it should be the prerogative of each academic to decide if they want to participate in third stream income and the latter group that

disagreed with the statement could be of the opinion that academics should concentrate on teaching, learning and research or that it may not be in the contract of service for academics to participate in third stream income.

**E5:** Almost half of the respondents (46%) felt that academics applying for leadership positions should undergo entrepreneurial leadership assessment prior to being considered for promotion. Twenty two percent (22%) of the respondents were neutral and 32% of the respondents indicated that entrepreneurial assessment was not necessary. The latter could believe academic leadership is more about promoting the quality of teaching, learning and research, which is more important at a university than concentrating on third stream income generation.

**E6:** Most respondents (62%), which is a significant two-thirds of the respondents, indicated that academics should continuously be developed in the field of entrepreneurial creativity and innovation. About one quarter of the respondents (24%) were neutral and only 14% disagreed that academics should be developed in entrepreneurial creativity and innovation.

## **7.9 Entrepreneurial leadership**

This section looked at the level of the respondents' understanding of entrepreneurial traits and the potential that exists in exploiting third stream income opportunities in South Africa. The next section deals with entrepreneurial leadership responses and the corresponding p-value per statement to assess the statistical significance of the statement.

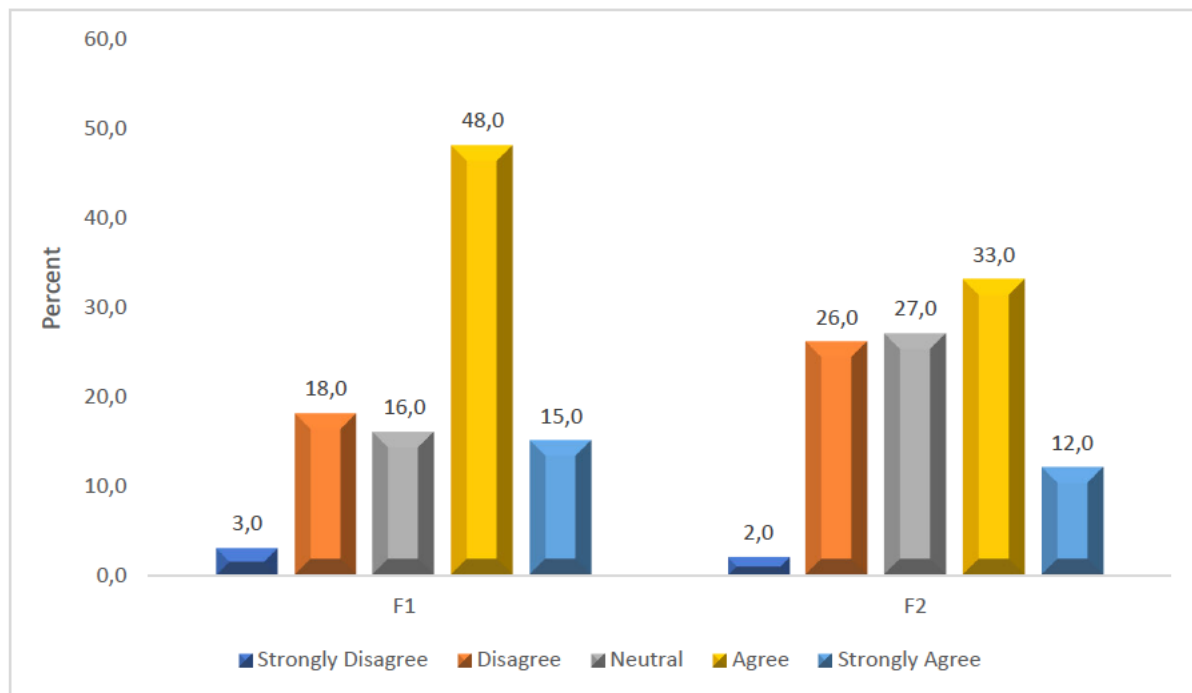
*Table 7. 12 Entrepreneurial leadership*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S2.1.5.6	<b>I have an understanding of entrepreneurial personality traits</b>	F1	3	3.0%	18	18.0 %	16	16.0 %	48	48.0 %	15	15.0 %	< 0.001
S2.1.5.19	<b>It is difficult to find third stream income opportunities in South Africa.</b>	F2	2	2.0%	26	26.0 %	27	27.0 %	33	33.0 %	12	12.0 %	< 0.001

There was a strong indication that the majority of the respondents (63%) understood what entrepreneurial traits are required to engage in entrepreneurial endeavours, 48% of the respondents agreed with the statement and 15% answered the question with greater confidence. Almost one quarter of the respondents (23%) indicated that they do not understand what entrepreneurial traits are required, and this shows that some entrepreneurial development intervention would be of value for academics wanting to participate in third stream income activities. Only 16% of the respondents were neutral and these could be added to the responses that provided a negative response. This would mean that potentially 39% of the respondents will fall into the category that requires entrepreneurial development, which is a significant proportion of the respondents.

A significant number of the respondents (45%) felt that it was not difficult to identify entrepreneurial opportunities in South Africa. What was interesting was that 27% provided a neutral response, and this could be that they have not explored entrepreneurial opportunities or may not be entrepreneurially inclined and 28% indicated that it is difficult to find

entrepreneurial opportunities. This means that 55% of the respondents are in a group that would require some type of coaching or mentorship to help identify entrepreneurial opportunities.



*Figure 7. 9 Entrepreneurial leadership*

Figure 7.9 indicates that getting funding under entrepreneurial leadership is not easy. Moreover, the data shows that a large number of the respondents understand entrepreneurial personal traits. Lastly, it is very difficult for UKZN staff to find third stream income because of the workload and time constraints around their day-to-day work.

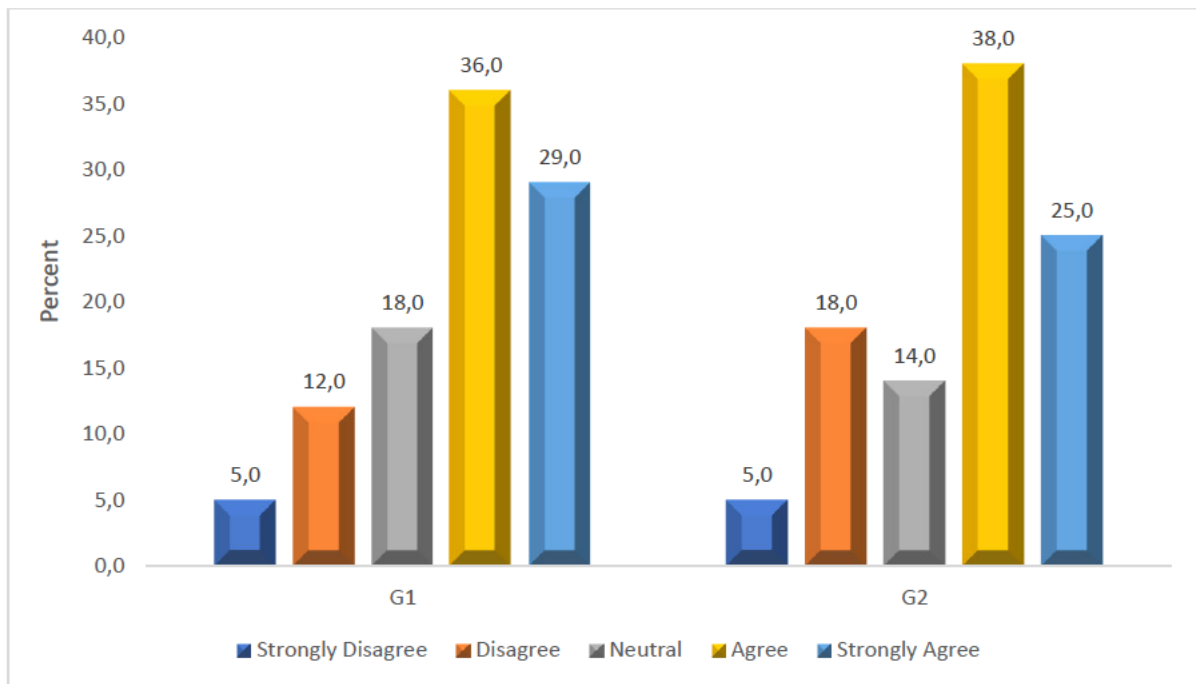
### 7.10 Academic workload

This section gives more details on the statement responses under academic workload and the corresponding p-value for each statement.

*Table 7. 13 Academic workload*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Co unt	Row N %	Co unt	Row N %	Co unt	Row N %	Co unt	Row N %	Co unt	Row N %	
S2.1.5.18	<b>The workload at UKZN is too cumbersome to engage in third stream income activities.</b>	G1	5	5.0 %	12	12.0 %	18	18.0 %	36	36.0 %	29	29.0 %	< 0.001
S2.1.5.11	<b>I spend most of my time on preparation for lecturing and teaching.</b>	G2	5	5.0 %	18	18.0 %	14	14.0 %	38	38.0 %	25	25.0 %	< 0.001

A significant percentage of the respondents (65%) indicated that the workload at UKZN is cumbersome, and it is a barrier for them to take on additional functions such as participation in third stream income. Sixty three percent of the respondents indicated that academic responsibilities such as preparing for lectures and teaching take up most of their time. It can be deduced that UKZN middle leadership considers methods of redistribution of workload and probably streamlining academic administration to create more time for academics to engage in third stream income.



*Figure 7. 10 Academic workload*

Overall, this proves that lecturers and senior lecturers are mainly focusing on preparation for the class to increase their productivity during lectures. The respondents indicated that the workload at UKZN is high and 65% of the respondents either agreed or strongly agreed with the statement. The best way to improve the productivity is to reduce the workload and allow the staff to change the courses often.

### **7.11 Entrepreneurial knowledge**

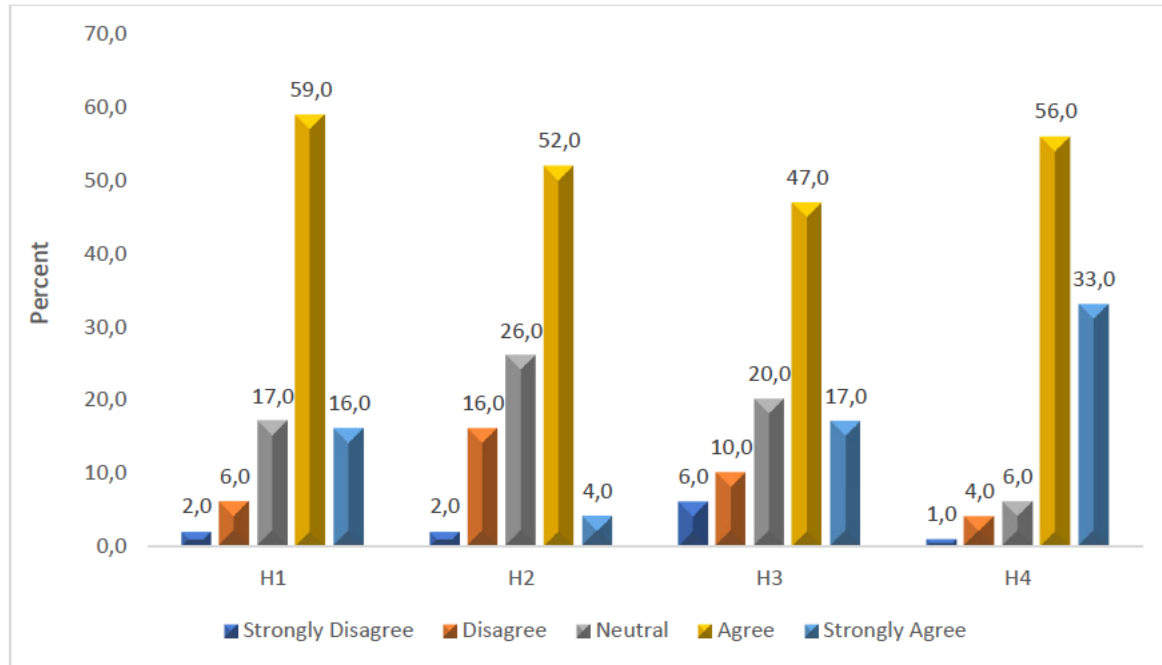
This section tests the respondent's willingness to adapt to change, ability to manage stress, ability to engage with stakeholders and the understanding of emotional intelligence. It shows the distribution of the responses per statement and the p-values have been included to assess the statically significance of the statement under entrepreneurial knowledge.

*Table 7. 14 Entrepreneurial knowledge*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square P-value
			C o u n t	R o w N %	C o u n t	R o w N %	C o u n t	R o w N %	C o u n t	R o w N %	C o u n t	R o w N %	
S2.1.5.29	<b>I find it easy to accept change in respect of new thinking and new ideas to raise third stream income.</b>	H1	2	2.0 %	6	6.0 %	17	17.0 %	59	59.0 %	16	16.0 %	< 0.001
S2.1.5.25	<b>I have the ability to manage stress caused by taking on third stream income activities.</b>	H2	2	2.0 %	16	16.0 %	26	26.0 %	52	52.0 %	4	4.0 %	< 0.001
S2.1.5.26	<b>I have the confidence to engage with external stakeholders on large funding opportunities.</b>	H3	6	6.0 %	10	10.0 %	20	20.0 %	47	47.0 %	17	17.0 %	< 0.001
S2.1.4.10	<b>I understand what is meant by emotional intelligence .</b>	H4	1	1.0 %	4	4.0 %	6	6.0 %	56	56.0 %	33	33.0 %	< 0.001

A significant number of the respondents (75%) indicated that they are amenable to change and the adoption of new approaches to pursuing third stream income. A little over half of the respondents (56%) indicated that they have the ability to manage stress when engaging in third stream income activities. It was interesting to note that just over a quarter of the respondents (26%) provided a neutral response and this could mean that they have not engaged in third stream income. A relatively small percentage of the respondents (18%) indicated that they do not have the ability to manage stress when engaging in third stream income activities. Almost two thirds of the respondents (64%) indicated that they are confident when engaging with external stakeholders on large funding opportunities. A small percentage of the respondents (16%) indicated that they were not confident when engaging with funders and 20% were neutral, which could mean that the latter may not have engaged with funders. A significant

number of the respondents (89%) indicated that they understand what is meant by emotional intelligence, with only a small percentage providing a neutral response (6%) and 5% indicating that they did not understand what was meant by emotional intelligence.



*Figure 7. 11 Entrepreneurial knowledge*

In summary, there are significantly higher levels of agreement across all statements. Clearly, UKZN believes having new challenges is the best way to raise third stream income. Therefore, the staff has adequate entrepreneurial knowledge.

### **7.12 Concerns/ shortcomings**

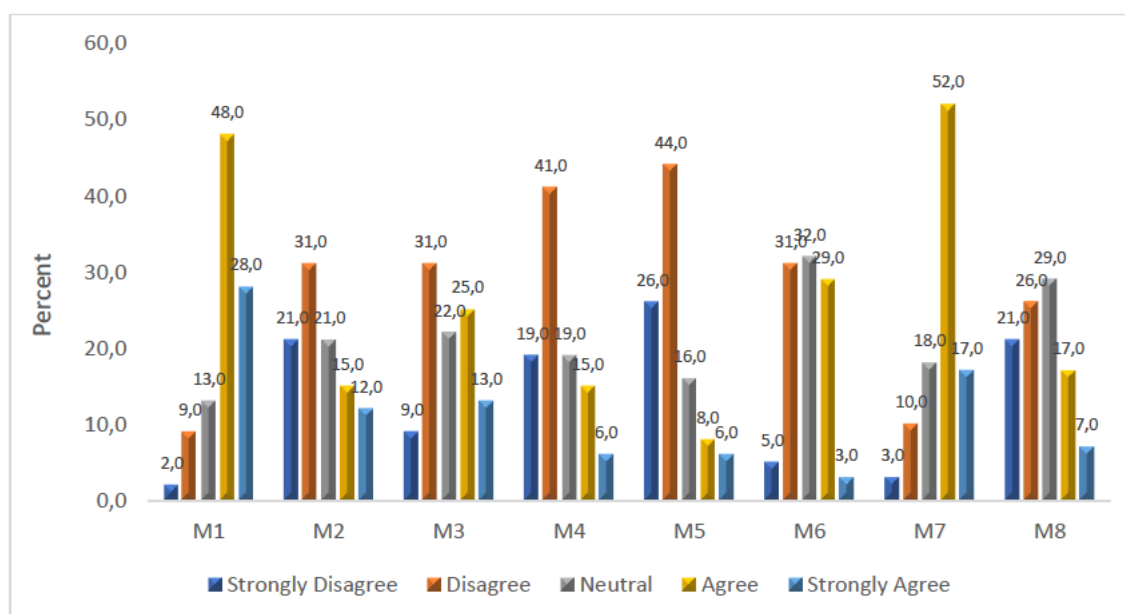
This section provides data from respondents that tests the challenges and shortcomings that may impede their ability to engage in third stream income-generating activities. This section details the distribution of the responses for UKZN staff around the shortcomings.

Table 7.15 Concerns/shortcomings

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S2.1.5.12	<b>I am concerned about developing my profile as a researcher (e.g. NRF rating, h-factor, attracting citations).</b>	M1	2	2.0 %	9	9.0 %	13	13.0 %	48	48.0 %	28	28.0%	< 0.001
S2.1.5.13	<b>I do not believe that the roles and responsibilities of an academic should include bringing in third stream income.</b>	M2	21	21.0 %	31	31.0 %	21	21.0 %	15	15.0 %	12	12.0%	0.031
S2.1.5.14	<b>I believe that third stream income should be the responsibility of specific units set up to perform this function, for example, InQubate.</b>	M3	9	9.0 %	31	31.0 %	22	22.0 %	25	25.0 %	13	13.0%	0.003
S2.1.5.15	<b>I do not have the networks or skills to enable me to start engaging in third stream income activities.</b>	M4	19	19.0 %	41	41.0 %	19	19.0 %	15	15.0 %	6	6.0%	< 0.001
S2.1.5.16	<b>I feel that I am not ready to engage in third stream income activities.</b>	M5	26	26.0 %	44	44.0 %	16	16.0 %	8	8.0 %	6	6.0%	< 0.001
S2.1.5.20	<b>I find it easy to engage with academic staff from different disciplines to explore new third</b>	M6	5	5.0 %	31	31.0 %	32	32.0 %	29	29.0 %	3	3.0%	< 0.001

	<b>stream income opportunities.</b>													
S2.1. 5.24	<b>I believe that taking on third stream income responsibilities will be stressful for academics.</b>	M 7	3	3.0 %	10	10.0 %	18	18.0 %	52	52.0 %	17	17.0%	< 0.001	
S2.1. 4.2	<b>I mostly collaborate with academics outside of UKZN.</b>	M 8	21	21.0 %	26	26.0 %	29	29.0 %	17	17.0 %	7	7.0%	0.005	

A significant number of the respondents (76%) indicated that they are concerned about developing their research profile. Only a small percentage of the respondents (11%) indicated that they were not concerned about developing their research. This could be because the latter group of the respondents have established themselves as rated researchers and do not have further ambitions.



*Figure 7.12 Concerns/shortcomings*

Out of eight statements, two show significantly higher levels of agreement (M1 and M7); four (M2, M3, M4 and M5) show significantly higher levels of disagreement; and the last two (M6

and M8) have higher levels of neutral responses. All the p-values are less than 0.050. The above statement is in exception of **I do not believe that the roles and responsibilities of academics should include bringing in third stream income** because the p-values are less than 5%; therefore, the statement is statistically significant at the 5% level of significance.

### **7.13 Emotional intelligence**

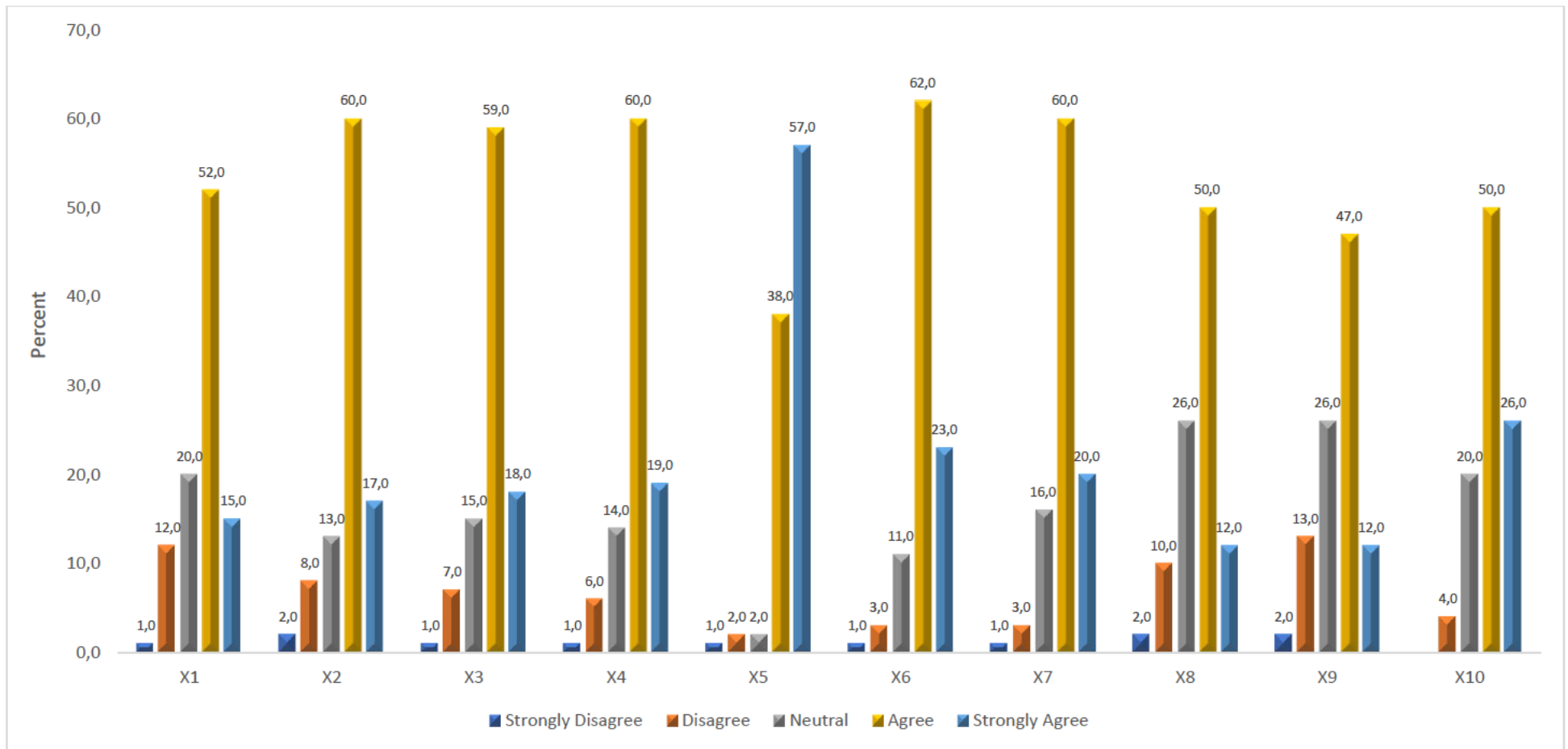
This section provides data on the respondent's assessment and understanding of their own emotional intelligence.

*Table 7. 16 Emotional intelligence*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S3.1	<b>I understand my emotional state at all times.</b>	X1	1	1.0%	12	12.0%	20	20.0%	52	52.0%	15	15.0%	< 0.001
S3.2	<b>I am always aware of my limitations.</b>	X2	2	2.0%	8	8.0%	13	13.0%	60	60.0%	17	17.0%	< 0.001
S3.4	<b>I have the ability to control my emotions.</b>	X3	1	1.0%	7	7.0%	15	15.0%	59	59.0%	18	18.0%	< 0.001
S3.6	<b>I am always adaptable to change.</b>	X4	1	1.0%	6	6.0%	14	14.0%	60	60.0%	19	19.0%	< 0.001
S3.7	<b>I always strive for standards of excellence in my work.</b>	X5	1	1.0%	2	2.0%	2	2.0%	38	38.0%	57	57.0%	< 0.001

S3.11	<b>I am capable of adapting to changes in the organisation.</b>	X6	1	1.0%	3	3.0%	11	11.0%	62	62.0%	23	23.0%	< 0.001
S3.12	<b>I am always service-oriented towards UKZN.</b>	X7	1	1.0%	3	3.0%	16	16.0%	60	60.0%	20	20.0%	< 0.001
S3.16	<b>I possess good conflict management skills</b>	X8	2	2.0%	10	10.0%	26	26.0%	50	50.0%	12	12.0%	< 0.001
S3.8	<b>I am cautious when deciding to participate in new activities, such as third-stream income activities at UKZN.</b>	X9	2	2.0%	13	13.0%	26	26.0%	47	47.0%	12	12.0%	< 0.001
S3.3	<b>I am self-confident.</b>	X10	0	0.0%	4	4.0%	20	20.0%	50	50.0%	26	26.0%	< 0.001

A significant percentage of the respondents (67%) indicated that they are always in tune with their emotional state, 20% were neutral and only 13% felt that they were not in touch with their emotional state at all times. Slightly over two-thirds of the respondents (67%) felt that they were aware of their limitations and a very small percentage (10%) felt that they were not always aware of their limitations. A large percentage (77%) of the respondents indicated that they have the ability to control their emotions with only a small percentage (8%) indicating that they are not in control of their emotions. A very significant percentage of the respondents (79%) indicated that they are adaptable to change. With 95% of the respondents stating that they strive for excellence in discharging their work responsibilities. A very high percentage of the respondents (85%) indicated that they are adaptable to change in the organisation, which is UKZN. This was followed by 80% of the respondents indicating that they are service-orientated. Almost two-thirds (62%) of the respondents indicated that they have good conflict management skills with 26% of the respondents providing a neutral response and this could be because these individuals are averse to conflict and manage themselves in a way that avoids conflict situations. A fairly large percentage of the respondents indicated that they are cautious when deciding if they should involve themselves in third stream income activities, which could be attributed to workload or family responsibilities. Just over a quarter (26%) of the respondents indicated that they were neutral, which could mean that these individuals have not engaged in third stream income activities. A significantly large percentage of the respondents (76%) indicated that they are self-confident with only 4% indicating that they feel they lack self-confidence.



*Figure 7. 13 Emotional intelligence*

All the statements show high levels of agreement. The calculated p-values are less than both 1% and 5% level of significance means that we cannot reject the null hypothesis (the statement is statistically significant). UKZN's staff is capable of emotional change, and they are honest to themselves. Strongly disagree had a minimal response.

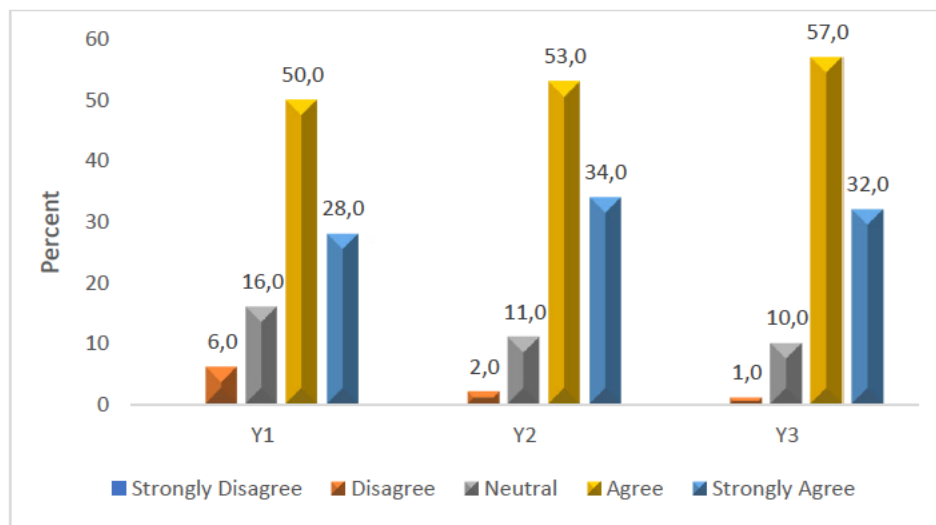
#### **7.14 Leadership traits**

This section looks at a few important leadership traits which include openness to sharing information, positive thinking, and empathy. This section details the level of agreement per leadership trait response and the corresponding p-value for each statement to assess the significance of the statement.

*Table 7. 17 Leadership traits*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S3.5	<b>I am open to sharing information at all times.</b>	Y1	0	0.0%	6	6.0%	16	16.0%	50	50.0%	28	28.0%	< 0.001
S3.9	<b>I am a positive thinker.</b>	Y2	0	0.0%	2	2.0%	11	11.0%	53	53.0%	34	34.0%	< 0.001
S3.10	<b>I am empathetic to my colleagues.</b>	Y3	0	0.0%	1	1.0%	10	10.0%	57	57.0%	32	32.0%	< 0.001

A significant percentage of the respondents (78%) indicated that they are open to sharing information; only 6% of the respondents disagreed with the statement and 16% were neutral. This could be as a result of the respondents not being at a level that required them to share information. The majority of the respondents (87%) indicated that they are positive thinkers and a very small percentage (2%) felt that they were not positive thinkers. A correlation exists with the previous statement as a similar number of the respondents (89%) felt that they were empathetic.



*Figure 7. 14 Leadership traits*

In summary, all the statements have significantly high responses to agree which are 50%.

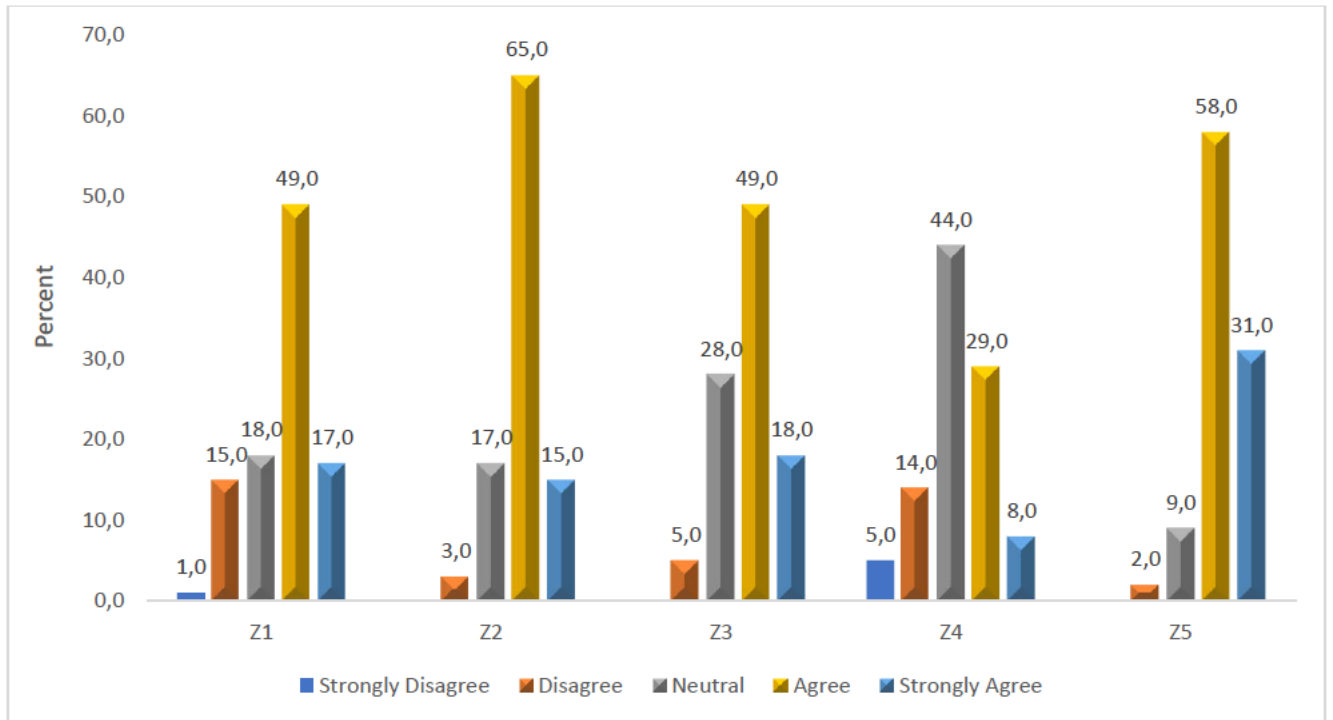
### 7.15 Team player

This section provides data with respect to respondents' affinity to being team players and support for the larger collective. It entails the details to determine whether the UKZN staff are the team players.

*Table 7. 18 Team player*

			Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Chi Square p-value
			Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	
S3.13	<b>I have the skills to be persuasive.</b>	Z1	1	1.0 %	15	15.0 %	18	18.0 %	49	49.0 %	17	17.0 %	< 0.001
S3.14	<b>I am a good mentor to my colleagues.</b>	Z2	0	0.0 %	3	3.0 %	17	17.0 %	65	65.0 %	15	15.0 %	< 0.001
S3.15	<b>I consider myself to be a change agent in my work environment at UKZN.</b>	Z3	0	0.0 %	5	5.0 %	28	28.0 %	49	49.0 %	18	18.0 %	< 0.001
S3.17	<b>I am good at creating relations for entrepreneurial ventures.</b>	Z4	5	5.0 %	14	14.0 %	44	44.0 %	29	29.0 %	8	8.0 %	< 0.001
S3.18	<b>I am a team player.</b>	Z5	0	0.0 %	2	2.0 %	9	9.0 %	58	58.0 %	31	31.0 %	< 0.001

Almost one third of the respondents (66%) indicated that they believe that they have the skills to be persuasive and a much smaller percentage (16%) indicated that they do not believe that they have the skills to be persuasive. A significant percentage of the respondents (80%) indicated that they believe that they are good mentors to colleagues. Two-thirds (67%) of the respondents indicated that they consider themselves to be change agents in the work environment at UKZN. It was interesting to note that most of the respondents (44%) provided a neutral response with regards to their ability to create relations for entrepreneurial ventures, with 37% of the respondents indicating that they believe that they are good at creating entrepreneurial relations and 19% of the respondents feeling that they do not have the ability to create relations for entrepreneurial ventures. A significantly high number of the respondents (89%) indicated that they believe that they are team players.



*Figure 7. 15 Team player*

Overall:

All the statements have high responses on agree whilst strongly disagree had a least response. In conclusion, large number of the respondents see themselves as team players and are willing to support others in the work environment and in entrepreneurial ventures.

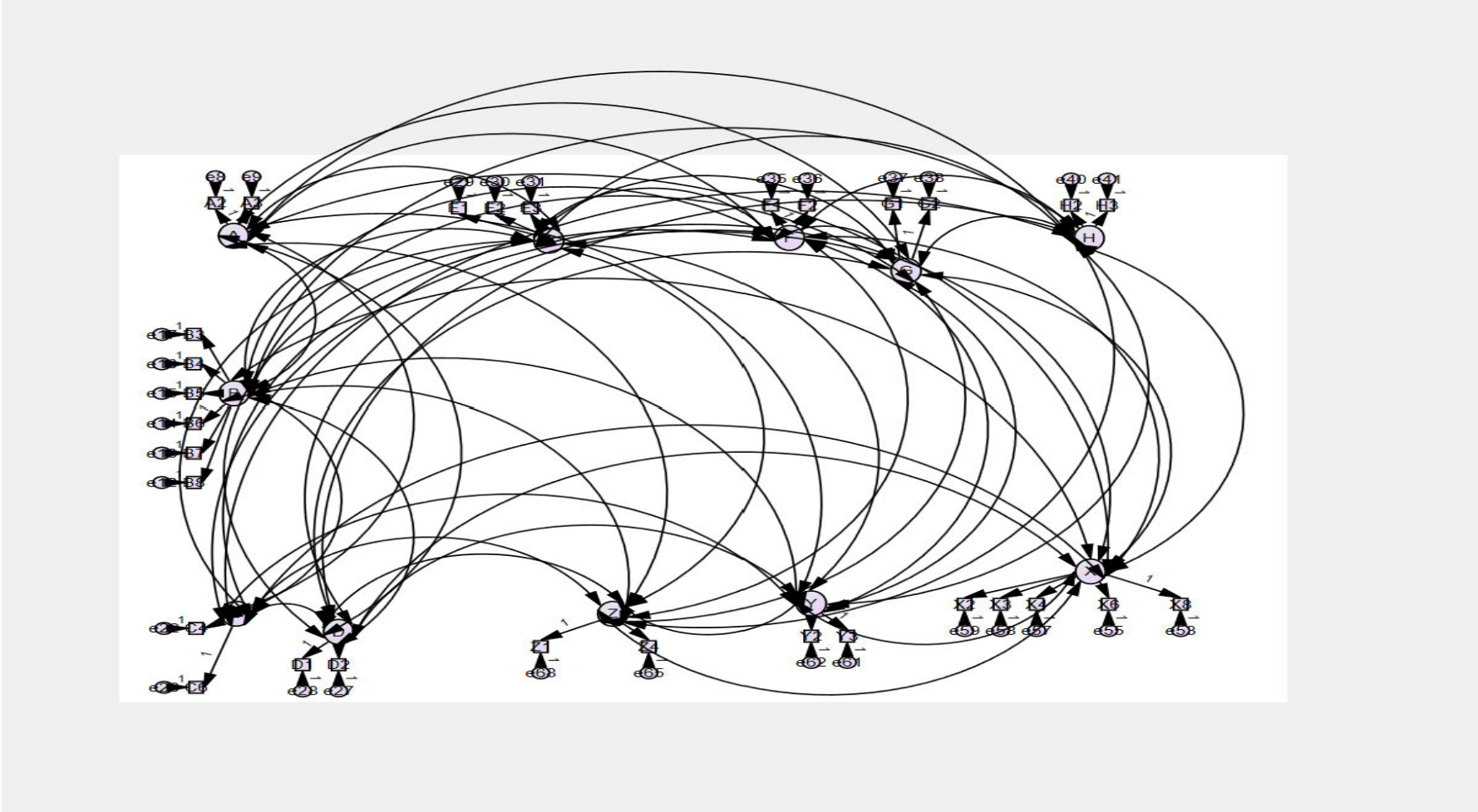


Figure 7. 16 The structural equation model

It is evident from the model constructed from the analysis that some of the data have recursive relations. The model shows that there is a recursive relationship between the statements in the model. The correlation between A2 and A3 is positive and high at 0,614 between academics having expert knowledge and networks and are willing to share the same with academic peers. There is also a positive correlation between A2 and Y3 at 0,173 and between A2 and Y3 at 0,169, which shows that academics are empathetic and good at creating entrepreneurial ventures and are willing to share the expertise and networks for third stream income activities that they have. This shows that there is a relationship between social capital, emotional intelligence and attitudes towards third stream income. There is also a positive correlation between X3 and A3, which is 0,172 and between A2 and X3, which is 0,115. This shows that academics are in control of their emotions and believe that they have good expertise and networks and are willing to share in third stream income activities. There is also a positive correlation between A2 and E2, which is 0,282 and between A3 and E2, which is 0,465, which shows that academics believe that they have good expertise and networks in third stream income and that they believe that development in emotional intelligence will benefit the process of getting academics to share their expertise and networks, which shows evidence that a framework that is developed to build emotional intelligence in promoting social capital for developing positive attitudes towards third stream income generation is likely to be a viable option to build the emotional intelligence – social capital nexus in promoting participation in third stream income generation. The data from the above analysis is extracted from the excel data using the SPSS 26 software programme.

## **7.16 Summary**

The chapter provided definitions of the statistical methods and tools that were used to develop the model to analyse the data. The chapter was arranged in accordance with the themes that were established and statements from the questionnaire that were identified as most relevant to the findings and aligned to the research questions. Explanations that were determined to be most relevant and informed the findings were provided to describe the trends.

## CHAPTER 8 DISCUSSION OF FINDINGS

### 8.1 Introduction

This chapter uses the study's research questions to provide structure and is presented as a case study. It integrates the literature from Chapter 2 on transformation in higher education, the theoretical models of Naphiet and Ghosal (1998) and Goleman, Boyatzis and Mckee (2002) from Chapter 3, the UKZN context from Chapter 5, and the results chapters contained in Chapters six and seven. The chapter conducts an in-depth analysis of the findings, correlates information and data from the empirical findings, analyses the variance in some of the statistical findings, and builds and supports arguments with empirical evidence from this study and similar previous studies. It also presents the research contribution to the field of study, which is the proposed coaching framework to develop academics participation in third stream income at universities or higher education institutions. The coaching framework is supplemented with a coaching process and guidelines for conducting the coaching intervention based on the fundamentals of the Emotional Intelligence Domains and Associated Competencies model (Goleman, Boyatzis, and McKee, 2002).

### 8.2 Executive summary

UKZN is a highly rated research-intensive university in South Africa and has a proven track record of being a preeminent research university in Africa and globally. The university is home to students and academics from many African and international countries and this is a good barometer of its global positioning and reputation. The research credentials of staff, students and numerous South African Research Chair Initiatives (SARChi) highlight the quality of education and research achievements of the university. The university, through its 2017–2021 strategy has set out its agenda to be a leading entrepreneurial university. It has shown its intent to support and drive entrepreneurship and innovation across the university. UKZN also prides itself on having a strong REACH<sup>T</sup> value system, which is at the core of UKZN's 2017–2021 strategy. The university has started the process of repositioning itself and gearing has started through the efforts of Project Renewal. This initiative intends to revitalise and advance the university to further its effort to be a globally competitive entrepreneurial university. This research study found that the institution has had strong leadership and sound governance over the years. Like most institutions locally and internationally, it had to adapt to global and national transformation. The executive

leadership of UKZN has shown its courage in managing the recent challenges brought about by economic pressures, the COVID-19 pandemic, student protests, the need for transformation to address apartheid inequalities and be relevant in the global knowledge economy and digital advancement. This case study explored how the emotional intelligence – social capital nexus in academics impacts the attitudes towards third stream income generation. The chapter discusses the findings of this research and builds a case for developing higher levels of emotional intelligence in academics to promote social capital to create positive attitudes towards third stream income generation. It also interrogates the findings that have shown the impact of negative or low emotional intelligence could retard efforts to create social capital for third stream income efforts. Some suggestions are provided on methods that can be used to promote emotional intelligence, mitigate strategies to address the negative impact of emotional intelligence, and promote social capital to develop positive attitudes towards third stream income generation. The case study also reflects on the positive and negative impact that social capital has had on efforts to raise third stream income at UKZN.

### **8.3 Research question 1**

*Whether the creation of social capital among UKZN academics, is important to third stream income generation for the university and if so, why?*

#### **8.3.1 Value of networks**

The study found that social capital creates access to resources residing with academics and outsiders that are required to create positive attitudes towards third stream income generation. This study concentrated on the internal social capital prevalent among academics at UKZN. The focus was on what was required to facilitate the transmission of social capital among academic peers at UKZN to increase participation in third stream income generation. Social capital places emphasis on network relationships to achieve organisational goals through group formation, content, and the evolution of the network. Social capital is a source participating in a specific social structure that creates and pursues a common interest. This is created through association and the resultant change in the relationship among the participants. (Baker, 1990:619).

The structural dimension of social capital is created through network ties, network configuration and appropriable organisation. It was evident from Chapter 5 that UKZN is

not faring well in its efforts to raise third stream income through commercialisation of research, consultancy, fundraising and continuing education. This is despite the university having three dedicated units with specialisation, comprised of UKZN Foundation, InQubate and Extended Learning. It was found that there is a lack of coordination among these three divisions. It was evident from the qualitative and quantitative findings that UKZN academics have networks to benefit third stream income efforts.

UKZN can benefit from third stream income generation efforts, with 81% of the respondents indicating that they have networking skills and 74% of the respondents willing to share their networks. There was a high positive correlation of 0,512\*\* with respect to the statements **I believe that I possess valuable expertise and networks that can benefit third stream income initiatives at UKZN** and **I believe in sharing my expertise and networks with UKZN academics for the purpose of third-stream income generation**. This indicates that respondents value the importance of networks and sharing these networks with academic peers for third stream income generation. The collaboration of academics forms a network within and among organisations to access resources from other social actors in the network. (Knoke, 1999:18). Networks are crucial in the development of social capital as they bring together people with skill, resources, influence, expertise, and confidence in groups. The study found that UKZN should create common spaces for staff to meet, allow for presentations at college board meetings so that academics from different schools can engage and create incentives for staff to secure commercial partnerships and contracts.

Social networks and the position of individuals in communities create belonging, trust and the potential for collective action, which contribute to social capital (Cornwell, 2015:250). The study found that social networks are built on trust among participants, satisfaction in teams, and effective quality communications with peers, subordinates, and superiors. Academics were willing to work on large grant applications with colleagues who could be trusted. This approach may also pose a challenge as the same group of academics may continue to collaborate, which will prevent access to new academics entering the group and limit the transfer of skills. It was also identified in the study that a group of young academics took it upon themselves to create a working group to support each other in terms of professional development and developing research proposals. In both instances, leadership guidance seems to be lacking. Academic leadership should be able to work with teams to

build trust, create a pipeline of talent from younger academics to enter research groups and ensure their continuity and success. In the second instance, academic leadership should be involved to guide and coach younger or novice academics in professional development, research and proposal writing.

Networks are crucial in the creation of social capital as they bring together people with skill, resources, influence, expertise and confidence in groups. A university's social networks position academics in ways that foster belonging, trust and the potential for collective action, thus contributing to social capital (Cornwell, 2015:250). The study found that social capital is mutually reinforcing, and external investors and funders are more receptive to funding universities that have close connectivity. This was evident in the funding of research groups at UKZN involved in HIV and TB research. The role of network configuration should be to facilitate participation in propagating feedback loops with all stakeholders in the social network. In networked decision-making, partnerships can transform the decision-making process, especially in a local context.

The situational analysis of UKZN and findings from participants have shown that academic leadership has found it a challenge to involve many academics in third stream income. It was stated that entrepreneurialism and academics do not go together. This creates the need to cultivate local creativity to generate new and innovative forms of business identity (Houghton and Stevens, 2011:46). It contends that policy making is informed within partnerships as interaction and learning take place through engaging and negotiating, and this can bring about change. This shows that there is a need at UKZN to develop interventions to get more academics involved in third stream income generation. The study found that the university does not offer entrepreneurial development training for academics. This is where the coaching of academics may prove to be useful. Participation in third stream income generation requires motivation, developing interpersonal skills, project management, willingness to take risks and entrepreneurial knowledge. A coach would be able to identify and address the limitations of academics and provide a personal roadmap for the academic's development.

### **8.3.2 Openness and transparency**

The study found that openness and transparency among academics and between line managers and academics are important to developing third stream income generation. Academics value being able to express themselves without fear or favour when it comes to

matters related to participation in third stream income generation. The study found that it is important to create an environment and culture of open dialogue with respect to third stream income. Academics require a safe forum to express their point of view, knowing that they will not be victimised or ostracised for being frank and open. It was found that openness and transparency help define clear lines of communication. The correlation between the statements: **I find it easy to engage with academic staff from different disciplines to explore new third stream income opportunities** and **I am always adaptable to change** is 0,105 is positive and indicates that the respondents are open to change and find it easy to engage with peers from different disciplines. This will promote effective engagement and the sharing of information, which will promote open communication and allow participants to be receptive to all the sensory information (Cherniss and Goleman, 2001:37). Promoting a culture of open dialogue allows individuals to express their feelings and emotions. A coach would be able to facilitate, moderate and develop academics with respect to the process of communication.

The study found that academics must engage in open dialogue, possess good listening skills, be open to different points of view, be intuitive and have the ability to discern information. This would allow them to make informed and calculated decisions. Openness was identified as a trait that fosters good interpersonal relations and builds trust among academics when engaging in income-generating activities. There seems to be a lack of openness among UKZN academics, with only 23% of the respondents indicating that they believe that academics engage in open dialogue with respect to third stream income generation. Respondents were not convinced that academic leadership at UKZN takes the time to listen to entrepreneurial opportunities, with 42% of the respondents providing a neutral response. In order to promote more participation in third stream income activities at UKZN, it is important that an intervention is developed to promote more open dialogue among academics and between academics and academic leadership.

Creating an open dialogue in the desired environment where all individuals abide by the rules and engage in constructive conversations irrespective of differing points of view promotes a shared vision. The correlation coefficient with respect to the statements **I believe in sharing my expertise and networks with UKZN academics for the purpose of third-stream income generation** and **I am open to sharing information at all times** showed a statistical reading of 0,138 indicating a positive and

high correlation. This means that there is a high propensity among UKZN academics to promote and create a shared vision amongst themselves. However, this has not translated into a significant number of collaborations on third stream income generation. A coach would be able to work with groups and help them develop a shared vision with respect to participation in third stream income. Developing a shared vision can also be promoted through workshops and training interventions, such as team-building exercises.

The correlation between the statements: **I believe that academic leadership at UKZN promotes a favourable culture to grow third-stream income** and **I believe in sharing my expertise and networks with UKZN academics for the purpose of third-stream income generation** was - 0,008 which showed a low and negative correlation indicating that academics are willing to share information and networks but there is a challenge from the level of leadership to academics. It is important that leaders afford subordinates full consideration of their desires, values and goals and not focus on their behaviour alone (Covey, 1992:107). A participant felt that consultation with academics allows the university to achieve greater possibilities by promoting a shared vision for income generation. The research found that it is important for academics to always subscribe to a compelling third stream income vision to give focus and direction and counter the effect of contestations and differences of opinion. Academic leadership must be mindful of egos and different perspectives that can derail a process and dilute the vision. This shows that an intervention is required to capacitate academic leadership in creating a more favourable culture to promote a shared vision with respect to third stream income.

### **8.3.3 Forms of communication in third stream income generation**

In this study, it was found that the bureaucratic structures of universities hamper the flow of communication and decision-making at times, which could put third stream income opportunities at risk because of short deadlines to respond to the call for proposals. The correlation between the statements: **I find it easy to engage with my line manager at UKZN on third stream income opportunities** and **Academic leadership at UKZN creates opportunities to motivate academic staff to be entrepreneurs** has a positive correlation on the 2-tailed correlation coefficient at .299\*\* indicates that there is a positive relationship with middle leadership engaging with staff and motivating them on third stream income activities. However, their systemic bureaucratic systems also negatively impact staff participation in third stream income. It was found that limitations with the

human resource policy and procedures for academics to participate in third stream income is a major challenge and the Private Remunerative Work policy was identified in the study. Academic leadership at UKZN is also involved in administrative duties and at times delays responding to income generating opportunities on time. A process needs to be developed to give academics access to decision makers at short notice and through a priority process.

It was identified that effective communication can be conducted through formal processes, such as meetings, or informal communication, where academics meet in more relaxed environments like common areas and share ideas, experiences, or information. There was a significantly high correlation of 0,077 between the statements **I have collaborated with other UKZN academics in third stream income activities** and **I am a team player**. This shows that respondents are keen to collaborate with academic peers and work in teams. Participants felt that informal communication can be just as effective in motivating academics in the promotion of third stream income. Subliminal communication was identified as effective in sparking conversations about third stream income. This could take the form of sharing advertised tenders via staff emails or posting calls for research grants on notice boards. Leaders could introduce topics of conversation related to income-generating opportunities to academics at meetings or in conversation.

The challenge lies in the effectiveness of communication with multidisciplinary teams that do not speak a common language. There was a -0,077 correlation between the statements: **I mostly collaborate with academics in my College/ School/ Discipline/Unit** and **I am cautious when deciding to participate in new activities, such as third-stream income activities at UKZN**. This indicates that respondents were cautious when working with academic peers. This could be for reasons such as lack of interest, workload, or internal dynamics, but it could also be due to the lack of understanding of other fields of expertise. Having difficulty communicating with people outside one's field of expertise impacts the cohesiveness of the group (Gleason, 2018:123). Codes devised by group members assist them in assessing and understanding the environment more effectively. Shared language, culture and common codes contribute to facilitating the transmission of knowledge, improving communication, and promoting sustainability within the ecosystem (Theodoraki et al., 2018:157). Humans are social beings and use dialogue to communicate vision, intentions, and contributions to society. Third stream income generation requires extensive dialogue to communicate intentions, secure resources and communicate vision and

purpose. This shows that there is a need to conduct interventions to improve communication at UKZN between academics and between academics and middle leadership.

The study found that one of the barriers to developing interpersonal relations among academics is that they come from different disciplines, which have their own jargon and terminology. The study found that 70% of the respondents agreed with the statement that power is leveraged in interpersonal relations when academics have expert knowledge. Interpersonal relations are influenced by interpersonal dynamics and 58% of the respondents believed that they could manage interpersonal dynamics. A significant 32% of the respondents felt that they could benefit from training interventions in emotional intelligence to help them learn skills to manage interpersonal dynamics. The study found that understanding the following attributes is important to promoting good interpersonal relations: specialist knowledge, trust, management of interpersonal dynamics, diversity, open dialogue and emotional intelligence. A study found that there was a significant positive relationship between self-management and active constructive behaviour and a negative statistical relationship between self-management and passive destructive behaviour among leaders (Harriott, 2014:121). This shows emotional intelligence was considered an important tool to improve communication among academics and address interpersonal dynamics.

#### **8.3.4 Importance of trust in third stream income**

The research found that trust was important for effective group collaboration in third stream income collaboration. The fundamental principle of social capital is the creation of trust, which contributes to an amplified engagement in the growth of trusting and reciprocal relationships (Fuller, 2013:69). Trust forms the basis for group members to unconditionally be open and share knowledge, skills, networks, and commitment. It was felt that there is a lack of trust between some academics when it comes to participation in third stream income generation. This was attributed to remnants of the merger and the perception of power dynamics between previous Natal University and University of Durban - Westville academics. Mistrust was identified as the cause of the breakdown in relations and communication between academics and academic leadership at the institution. Academics have also had bad experiences when contributing to research papers and funding applications. They were excluded when the papers were published or the funding applications were successful. This highlights the responsibility of academic leadership to ensure that fair application processes are being employed and that academics are rightfully

acknowledged and rewarded. This shows that an intervention is warranted to develop middle and senior leadership in building trust amongst academics and between academics with respect to the rules of engagement when collaborating on third stream income activities.

Relationships and closed networks allow individuals to access, facilitate, and activate embedded resources, which include data, stimulus, and credentials (Qi, 2013:316). Trust among academic networks helps to generate ideas, intellectual capital, skills, and influence, which can contribute to third stream income generation. In instances where social capital promotes bonding, with some groups being more relevant, valuable, and positive than others, trust is critical, especially among delicate connections (Fuller, 2013:3). There was a significantly high correlation, which was  $.317^{**}$  between the statements **I rate trust highly when collaborating with UKZN academic staff on third stream income activities** and **I believe that I possess valuable expertise and networks that can benefit third stream income initiatives at UKZN**. This indicates that trust is an important factor when collaborating with academic peers on third stream income initiatives.

Trust allows groups to share valuable, relevant and contemporary information, which can lead to a potential project. In this study, 61% of the respondents indicated that they trusted their peers, although this is a significant percentage. The fact that 39% of the respondents were not completely convinced by the statement shows that interventions to develop trust can be used to improve levels of trust among academics at UKZN. This would inform interventions to improve trust relations at the university. It was important for the academics and academic leadership of an institution to be open and willing to share information and resources.

Trust was found to be an important criterion for the formation of groups in third stream income generation, with 80% of the respondents indicating that it is important for building strong interpersonal relations. There was a significantly high negative correlation of  $-0,104$  between the statements: **I believe that taking on third stream income responsibilities will be stressful for academics** and **I believe that UKZN academic staff engage in open dialogue to promote third stream income activities**. This shows that a large number of respondents felt that academics do not engage with academic colleges on third stream income because they feel that colleges are not transparent, and this is indicative of mistrust. A participant stated that when groups are formed to apply for large research grants, they tend to choose members, with whom they

have previous work experience and they can trust. It was also stated that trust and trustworthiness were identified as being necessary to build authentic professional relationships in the process of third stream income generation.

Open multiagent systems are characterised by systems in which agents are free to enter or leave the system. In these systems, trust and reputation are used to select partners and delegation. It is advisable in these trust models that emotions also be factored in to determine the actions and reactions in the reasoning and decision making process (Silveira *et al.*, 2016:57). It has been found that most empirical research with respect to trust does not afford consideration to human dependency on others and that trust is heavily influenced by human emotions. Therefore, to develop a clear understanding of trust, it is vital to consider the personal historical context of the same agents and not aggregate metrics of measurement extrapolated from other agents (Silveira *et al.*, 2016:58). Trust among academic networks helps to generate ideas, intellectual capital, skills, and influence, which can contribute to third stream income generation.

### **8.3.5 Management of norms and values**

The study found that UKZN executive leadership required that the REACH<sup>T</sup> value system underpin the UKZN Strategy 2017- 2021 The REACH<sup>T</sup> value system was approved by the structures at UKZN and adopted by the UKZN Council (Natal, 2017:15). This shows that the leadership of the university was driving a human centric agenda, which included positioning the institution within the regional ecosystem of innovation and entrepreneurship (Natal, 2017:17).

Norms remove the aspect of uncertainty in the collective and define a set of rules that also reduce the transactional costs of cooperation and improve the level of understanding amongst group members (Edwards *et al.*, 2009:62). Participants indicated that they were familiar with the REACH<sup>T</sup> value system, which is visible in colleges and schools at the UKZN. This was seen as a more formal way of developing and maintaining norms and values. The study found that norms influence the actions of members in a group or network by prescribing accepted standards. It was also found that executive leadership needs to ensure that UKZN policies are being upheld. The second element in the maintenance of normative behaviour is the enforcement of the norm and individuals who do not conform are sanctioned. Social norms, as a dimension of social capital, have a direct bearing on collective action. They allow for the prioritisation of norm preferences, which can be inculcated by

internalising or subscribing to group values and promoting trustworthiness through the acceptance of group norms. The actors within the group are required to apply the reasoning process in interpreting, prioritising and subscribing to the group norms, which form part of the basis of cooperation in the group (Edwards et al., 2009:65).

Identification is a process where academics see themselves as a reflection of others or a group. They use the identity, or the norms, values, and attributes, as a reference to find commonality with the individual or group (Nahapiet and Ghoshal, 1998:256). In the process of networks that facilitate the flow of information to produce actors who develop credentials that make them attractive as role models, which motivates others to aspire to their values, standards, or ideals. These academics not only provide a reference but also reinforce the need to identify with the individuals or the group (Häuberer, 2011:133).

### **8.3.6 Need to improve collaboration in third stream income**

The study found that there is a propensity for UKZN academics to collaborate with academic peers. 70% of the respondents indicated that they have collaborated with academic peers on third stream income generation activities, and 56% of the respondents indicated that they collaborate with academic peers in their college, school, or discipline. In the study, 33.9% of male respondents strongly agreed with collaborating with academic peers on third stream income generating initiatives, with a similar percentage of female respondents (33%) in the same category. When the correlation statistics were broken down White, Indian and African were similar at 33% and 34%, while other races were at 25% and coloured at 0% with only one respondent. In a research study conducted in the business environment, it was found that there was a weak correlation to suggest that gender or age had an effect on measuring the relationship of emotional intelligence to problem-solving (Yalın and SÖZEN, 2015:108).

Interview and focus group participants indicated that they work in an environment governed by the policies of the university and have limited time given the nature of their job, which is primarily to teach, research and supervise students. It was found in the study that 43% of the respondents indicated that the culture among UKZN academics is not conducive to collaboration in third stream income. However, what was interesting to note is that 61% of the respondents indicated that they trust academic peers whom they work with on collaborative projects. Respondents also indicated that they do not agree that there is a high level of collaboration on third stream income at the university. The study showed that 56% of the respondents supported this view, as opposed to only 12% agreeing to high levels of

third stream income collaboration. This shows that there is a good case to develop interventions to promote collaboration among UKZN academics and between academics and academic leadership. Coaching academics can be a method that can be used to increase participation in third stream income activities.

Collaboration is highly dependent on the relational dimension, which includes building trust and developing norms that define acceptable practices among the relationships and determine obligations and identification. Collaboration was found to have a synergistic effect, and it allowed academics to share roles and responsibilities to improve efficiencies in third stream income collaboration. Collaboration sets the structural dimension of how formations would evolve, defining network relations, network ties and appropriable organisations. Academics in third stream income generation are dependent on the cognitive dimension to communicate and engage with other academics, and they use shared codes and language to communicate, plan, design, and construct projects.

The literature on the theory of social capital explains the need for shared narratives to convey experiences and create mental models and imagery to exchange information. The study found that the more senior and experienced academics narrating their experiences will motivate and develop the younger academics. This is a form of coaching that can be used to develop less experienced academics. This was important as UKZN is undergoing targeted transformation with respect to the development and inclusion of black academics to address the equity targets at the university. The research also found that UKZN has a large percentage of senior academics with skills and knowledge that are close to retirement age. It was found that in some departments and research groups, there are no succession plans in place. The literature also indicates that UKZN is attempting to improve gender parity and the number of black female academics, especially at the senior management level. It is evident from the transformation agenda at UKZN that formal interventions are required on a number of levels. Emotional intelligence development will help academics build confidence and motivate them to aspire for excellence. This will also be relevant to academics who are aspiring to leadership and management positions. Social capital development will help novice academics build the networks required to further their research ambitions by building strategic partnerships with research collaborators, high-performing students and funders.

### **8.3.7 Formation of teams in third stream income**

The study found that emotional intelligence is important to promoting teamwork and bringing together academics with the appropriate expertise and skills to engage in third stream income initiatives when submitting proposals or applications for high value grants. The study found that 89% of the respondents felt that they are team players, and this can be supported by a response from a participant in the interviews who illustrated how a group of early stage academics at UKZN took it upon themselves to work as a collective. These academics supported each other in their professional development and worked as a team to publish and submit funding applications. A study found that employees who display a good attitude, are happy in their jobs, are willing to receive feedback, have good relationships with colleagues and show that they have the emotional intelligence are good at problem-solving (Yalın and SÖZEN, 2015:105).

The study found that academics and academic leadership at UKZN are required to have high emotional intelligence skills when engaging in teamwork. In the Goleman, Boyatzis and Mckee (2002) emotional intelligence model, in the domain of relationship management, we find competency, teamwork, and collaboration. In this study, 62% of respondents were in favour of academics undergoing training in emotional intelligence prior to engaging in third stream income. There seems to be good collegiality and team spirit among academics, with 80% of the respondents indicating that they feel that they are good mentors to their academic peers.

### **8.3.8 Promotion of transdisciplinarity in third stream income**

The study found that teamwork helps share the responsibilities and breaks down tasks into more manageable units. It also brings together the necessary skills and expertise. The executive leadership at UKZN adopted a visionary approach to promoting transdisciplinary research groups, by establishing the four research flagships in four contemporary research areas, focusing on African Health, Social Cohesion, Big Data and Informatics and African Cities of the Future. These are strategic ways to bring academics together to foster teamwork and these research flagships can collaborate in multidisciplinary and interdisciplinary groups. Leaders of these flagships can also build the interest and competencies of academics to initiate third stream income initiatives. The study also found that bringing transdisciplinary teams together promotes teamwork. The combination of expertise can create new possibilities that can translate into new commercial opportunities. It is important

that opportunities are created for transdisciplinary teams to come together and explore new opportunities.

Transdisciplinarity was identified as a valuable collaboration for third stream income generation as it brings together experts from different fields and this contributes to innovative thinking. This expands the value chain and brings different expertise at the appropriate time in the project, ensuring that value creation is entering the process of the project. The study found that third stream income generation can benefit from transdisciplinary work as it creates high-value projects and has the potential for complex and high value third stream income efforts. The effective functioning of transdisciplinary teams is dependent on high levels of emotional intelligence by both academics and academic leadership.

### **8.3.9 Social spaces**

The study found that creating common social spaces for academics and academic leadership to meet is an effective way to get staff to explore collaboration on third stream income-generating activities. The study found that academics are currently meeting at venues outside the university to have professional collaborative discussions, which is inefficient as it takes time to travel, whereas a suitable venue within the university precinct will be more convenient. The university's executive leadership should be inspired when developing these creative spaces and should introduce this into the spatial planning and strategic documents of the institution. Participants felt that creative spaces can take the form of more leisure spaces, such as restaurants and pubs, or spaces that are more conducive to working, such as design thinking spaces and creative gardens. The efficiencies of the internet, virtual communication applications and social media platforms have their place in aiding academics and academic leadership to communicate. A more relaxed environment will allow for more creativity to be explored.

### **8.3.10 Diversity promotes creativity and innovation**

The study found that diversity contributes to collaborative relations among academics when the demographics, field of expertise, ethnic culture, and philosophy of individual academics are diverse. Diversity was found to be important, with 81% of the respondents indicating that diversity brings new perspectives to collaboration on income-generating efforts. This is valuable to third stream income generation as the differences in individual personalities,

expertise, values, and ideologies bring a rich tapestry of uniqueness to the collaboration. This has the potential to bring together contributions from different perspectives and expertise to ignite new forms of creativity and innovation. Academic leadership also needs to be aware of the counterproductive effects of diversity; if the groups are too diverse, they could create splinter groups. Individuals may be grouped according to age, fields, or political awareness. This study found that during breaks, older staff group together and younger staff tend to gravitate toward peers around the same age. Diversity in a group contributes to increased group efficiency if the members of the group have the appropriate skills and expertise in the correct proportion and they have the potential to work towards optimal functioning as a group. It is important for academic leadership to guide academic collaborations to solicit the optimal requirements for collaborative members designed for the income-generating proposal or projects.

#### **8.3.11 Debilitating effect of organisation silos**

The study found that silos within third stream income-generating departments at UKZN exposed several inefficiencies, resulting in the duplication of resources, internal competition for resources, external business and tensions within the organisation and could result in institutional territorialism. Academics at UKZN work in an environment that is competitively influenced by academic standing and professional recognition. The study found that there is a propensity for more senior academics to create research groups in a particular niche area within their field of expertise. This extends to the protection of territory both within the institution and with respect to the contest for funding, which academics fiercely protected (Rider et al., 2020:20).

The study found that the changing nature of the university should be based on academic excellence. It was felt that at UKZN, matrix structures have academics reporting to multiple line managers, which dilutes and weakens the authority of each line management relationship. In pursuit of efficiencies, barriers to bureaucracy are shifting from vertical systems of management to horizontal peer pressure. Work that was previously designed by managers in formal organisations is now being crafted collectively amongst colleagues who do not have authority over each other (Burt, 2005:3). The research found that leaders need to be aware of the emotions of academics at UKZN and help guide them in executing their work and coping with change. In managing and leading others, a leader needs to have the

capabilities to monitor and manage the emotional reactions of others (Cherniss and Goleman, 2001:5).

### **8.3.12 Strategic relationships in third stream income**

The study found that the concept of social capital was not understood by many of the participants in the interviews and focus groups. This warrants interventions that unpack the three dimensions and sub-dimensions of social capital. This needs to extend to how social capital creates benefit and value through strategic relations. It was found in the study that social capital and emotional intelligence are interrelated. Academics at universities require emotional intelligence skills to access vital information and resources to develop third stream income initiatives. One of the key tenets of social capital is the benefit derived from networks.

Generating social capital within an institution does not only give access to networks and resources from within the institution but also introduces networks and resources external to the HEI. In developing strategic relations, it is important to understand social awareness, which is understanding the internal dynamics of an institution. The study found that good relations exist between academics and middle leadership, and this would allow the leaders to tap into this and build stronger participation and engagement among staff in third stream income generation.

The study found that the creation of third stream income should be developed at a strategic level, starting with the vision, mission and objectives of a university. This process is driven by executive leadership and needs to cascade into a more consultative programme across the university. Third stream income evolves from one's awareness of their value system, surroundings and the impact of their choices on society. Innovative organisations have transformational leaders who build on trustworthiness, diversity, and inclusiveness (Bass and Avolio, 1993:113). It is important that leaders at universities suspend judgement and not prejudge a situation. It is important for an academic leader to always have a big picture and clearly understand where the potential income generating opportunity fits into the big picture (Buller, 2014:94). Universities develop policies and guidelines to promote and manage third stream income activities and designate a directorate to employ a process to create and manage entrepreneurial endeavours. The study found that the promotion of third stream income among university academics requires a strategy and an implementation plan at the institutional level and a policy with monitoring and evaluation guidelines to manage the

process successfully. This intervention can be customised and aligned to the institutional strategy. This would also expand the enquiry to develop a more efficient system by conducting research into organisational behaviour, resource management, ethics, social networks, and social responsibility in academic entrepreneurship. An investigation of these factors would promote groupthink amongst stakeholders from a psychological perspective (Abreu et al., 2016:28).

## **8.4 Research question 2**

*Whether the development of emotional intelligence contributes to strengthening the social capital of UKZN academics for third stream income generation and if so, how?*

### **8.4.1 Emotional intelligence the key to raising third stream income**

The emotional intelligence of a leader, coach or colleague has shown been to have enormous potential in supporting employees in an organisation to improve their capabilities and talents for organisational effectiveness (Cherniss, 2001:7). It can be drawn from the definition of emotional intelligence provided in Chapter 3 that emotions are key to understanding emotional intelligence as they help interpret one's own emotions and those of others. The study found that 77% of respondents at UKZN indicated that they are in control of their emotions and 67% indicated that they are always in tune with their emotions. Emotions produce the instinctive reaction of people's ability to control their emotional state and manage energy, knowledge, perception and the application of emotions (Yalın and SÖZEN, 2015:101). Emotions may not always have a direct and positive correlation to emotional intelligence. Emotions may, in some situations, provide good intuitive insight, but at other times, bad past experiences could cloud an individual's perspective, resulting in a negative emotional response that may be counterproductive (David, 2016:9). It was found in this study that some UKZN academics are still dealing with past emotional challenges, such as the effects of the merger and the introduction of the college model which have created disdain. Any efforts to develop interventions to develop higher levels of emotional intelligence need to factor in that academics also need to be made aware of the impact of negative or low levels of emotional intelligence. Negative emotions result in slower and more cautious cognitive processing, resulting in more skepticism and less trust (David, 2016:44).

This study also found that emotional intelligence is important for academics' participation in third stream income generation. Emotional intelligence influences our ability to learn skills that form the basis of the four clusters of emotional intelligence and emotional competencies determine our potential to master skills and translate them into value in the organisation (Cherniss, 2001:28). Previous studies have reported that emotional intelligence is linked to the management of organisational outcomes and behaviour such as institutional patriotism, ensuring the mental wellbeing of employees and the moderation of change management (Hatamleh, 2021:25). In this study, 78% of the respondents indicated that they live by the principles of emotional intelligence when engaging with academic peers, and 72% of the respondents indicated that they believe developing emotional intelligence capabilities in academics will be beneficial to the individual when engaging in third stream income processes. The correlation coefficient relationship between the statements **I understand what is meant by emotional intelligence** and **I have collaborated with other UKZN academics in third stream income activities** has a correlation coefficient of 0,136, which means that there is a positive relationship between having knowledge of emotional intelligence and promoting better collaborative relationships with academic peers on third stream income generation. Emotional intelligence is the starting point to understanding the intricate process of entrepreneurship (Miranda, Chamorro-Mera and Rubio, 2017:114). This is supported by a study that found that higher levels of emotional intelligence had a positive correlation with entrepreneurial success. In that study, the measure of emotional intelligence also had a significant and positive correlation to financial entrepreneurial success and personal entrepreneurial success (McLaughlin, 2012:151).

#### **8.4.2 Empathy the foundation of understanding human emotions**

The versatility of empathy allows one to connect with another person's perspective, helps understand their mental state, and at the same time manage their own emotions while connecting at a very deep level (Daniel, 2013a:76). In this study, a considerable number of the respondents (89%) indicated that they are empathetic towards their colleagues. The correlation between the statements: **I am empathetic to my colleagues** and **I believe in sharing my expertise and networks with UKZN academics for the purpose of third-stream income generation** was 0,133, indicating a positive relationship, and that empathetic respondents were willing to share expertise and networks with academic peers. Empathy is an important competency to understand the behaviour and emotions of other academics when collaborating on third stream income projects. Empathy keeps one

receptive and conveys to others that you are attentive, learning, and influenceable (Covey, 1992:117). This study found that academics felt that empathy is an important competency for good leaders. It translated a conversation into a much deeper interaction and created a more meaningful dialogue that incorporated feelings and connectedness. The study found that empathy promoted sincerity, caring, understanding and more open and meaningful dialogue. Being empathetic is a skill that evolves the communication process and defines the context of the engagement, which promotes trust and honesty. It is important to understand that communication is not about the intellect but more about trust and the genuine receptiveness of their contribution, which may come from a diverse perspective but still contribute value (Covey, 1992:117). Empathy goes beyond actual physical engagement, which requires individuals to use experience to discern the emotional states of other individuals. It requires drawing on the collective of an individual's background, exposure, value system, and religious, social, and political beliefs. It also requires one to have an open mind and understand the context, background, experience and value of the other person who participates in the communication.

The study found that academics believed that academic leadership does not have the ability to be in tune with their needs and is not empathetic toward their workload and responsibilities. There was a significant negative correlation of -0,082 between the statements: **I believe that taking on third stream income responsibilities will be stressful for academics** and **I believe that my line manager understands third stream income activities come with increased responsibility**. This shows that respondents felt that their line managers are not empathetic when it comes to understanding the increased pressure of workload and responsibility that comes with third stream income. An intervention in emotional intelligence for middle leadership will help build better relations with academics with respect to third stream income.

It was felt that academic leaders need to be empathetic towards academics with young families, working towards developing their professional standing, while at the same time, being required to teach, publish, and supervise students. Academic leadership should consider how to better support these academics to participate in third stream income activities. A study by Haricharan (2015:244) found that empathy among public service leaders had the second lowest correlation with leadership performance, the third lowest individual score, the fourth lowest mean score, and a consistent mean score between the top

level of leadership and the lowest level. Providing guidance to early-career academics on how to balance work and personal life will help them with time management, improve productivity time and reduce stress. Empathy is one of the important competencies in the emotional intelligence domains and associated competencies (Goleman et al., 2002).

The study found that qualifications undertaken by academics to progress in their professional careers do not pay sufficient attention to soft skills such as emotional intelligence and empathy. When academics ascend to leadership roles, either leadership appointments within the university or leaders of income generating projects, many tend to lack the much-needed skill of being empathetic. It was also stated that it is the system, influenced by university policies and processes, that forces academics to become or behave in an unsympathetic manner, rather than a lack of understanding of how to be empathetic. Interventions that are proficient in developing emotional intelligence skills should be incorporated into the upskilling plans for university academics and accessible to all academics, including individuals in leadership positions at the university.

#### **8.4.3 Negative effect of trauma on entrepreneurial academics**

The study found that academics at UKZN have been exposed to some traumatic experiences at the university and many have not yet recovered. The study found that it is important for the executive leadership of the university to understand that traumatic experiences in the work environment are debilitating and cause stress, which can impact the health and well-being of academics. If these traumatic experiences have not been resolved, they could have long term negative effects not only for the individual but could also breed negativity and discontent in the organisation. The study found that unresolved workplace trauma resulted in employees being desensitised to the work environment, where they express no feeling or connectedness to their work or loyalty to the university. This has had a direct bearing on the loyalty of academics to the institution and impacted their commitment and productivity at the university. Staff tend to suppress their emotions, which is dangerous to their personal wellbeing and can also cause stress and disharmony at the university. Participants who engaged in third stream income activities and research projects were subjected to some traumatic experiences with academic peers. One example given was when unrealistic demands were placed on income generating units, which caused dissent in the group because there were no standardised norms to set targets and resource allocation was inequitable.

This is where empathy and organisational awareness can be valuable in helping academic leadership better understand the experiences of academics and work with them to overcome bad experiences. The study also found that, at times, academic leadership does not have the skills to deal with the emotional issues of academics and pass them on to the employee assistance program. Therefore, developing academic leadership in emotional intelligence will better equip them to assist academic staff. When academics are in a better frame of mind, they will be more conducive to being part of third stream income initiatives.

The study found that some academics were angry with the way they were treated by the academic leadership at UKZN. According to one participant, anger can be a dangerous emotion, and at times academics vent the anger they may have towards leadership on their colleagues, creating tensions and disharmony. Anger can be sparked by the most trivial reason, extending to very serious and complex reasons. It was good to note that 62% of the respondents stated that they have good conflict management skills.

A study conducted on the relationship between emotional intelligence and social intelligence in relation to conflict management found that anger can lead to conflict and even a trivial issue can escalate into something serious. The study found that anger can negatively impact teamwork, cause mistrust, and destroy open communication (Harriott, 2014:111). The study found that anger affects the physiology of academics as it leads to elevated blood pressure and can impact other medical and physiological conditions. It is important for academic leadership at UKZN to help resolve volatile situations and manage anger. A study found that leaders with good conflict management skills are an asset to the organisation. Their conflict management skills can be used to empower the organisation, advance innovation and creativity and resolve unproductive situations that are a risk to the organisation. These leaders can also ensure the longitudinal success of an organisation and maintain the agility of its culture (Harriott, 2014:127).

The study found that negative sentiment has festered in some academics, and this has contaminated their understanding and perception of unrelated matters. This resulted in the spread of misinformation or disinformation, which discredited the group and university. Having the necessary emotional intelligence skills to support academic peers is important to ensure the desired levels of motivation are maintained to achieve forecasted goals. A study found that a leader must be grounded in emotional and social intelligence and grow towards

being increasingly more actively constructive or collaborative when dealing with interpersonal conflict in an organisation (Harriott, 2014:128).

The results of this study show that there is a lack of confidence in the ability of some academic leadership to motivate staff to be entrepreneurial, with 71% of the respondents indicating this and 31% of the respondents choosing to remain neutral. This is also an indication that respondents did not have sufficient evidence of the motivational skills of academic leadership. A coaching intervention can also be used to develop leadership skills for third stream income generation.

The study found that academic leadership must be mindful that it is difficult to contain negative events at the university and that an incident in the past brought much negative publicity to the university and impacted the public image of the university. Social media enables information and negative publicity to spread faster, exponentially and reach potential new groups, which has a negative impact on the university's ambition to attract third stream income projects. A study on *The Relationship Between Emotional and Social Intelligence and Conflict Management Behaviour in Leadership* found that the advancement of technology increases the propensity for conflict and negative sentiment to spread, which can have negative relational and financial impacts (Harriott, 2014:118). Therefore, it is imperative to first work to prevent negative events from occurring at a university, but this may not always be possible. Academic leadership should have the necessary emotional intelligence skills to find constructive ways to resolve the situation.

#### **8.4.4 Development of emotional intelligence in third stream income**

The study found that there is an interrelated relationship between emotional intelligence and social capital in relation to attitudes towards third stream income generation. Third stream income generation brings together a different combination of resources, which include human capital, intellectual capital, financial capital, social capital, and physical capital, to deliver on a particular project. Capital is surplus value, which is the product of a process that involves an investment of different forms of capital and requires the return and reproduction of the surplus value (Lin, 2008:5).

Emotional intelligence interventions should not only cater for the development of individuals but extend to improving social intelligence when looking at collaboration in third stream income generation. Some researchers distinguish between emotional intelligence and social

intelligence, seeing emotional intelligence as self-management capabilities for controlling impulses and social intelligence as relationship skills. There is a growing school of thought in the field that is developing curricula to teach skills that use social and emotional learning (Cherniss and Goleman, 2001:15). These interventions could make use of action learning and get groups to work on hypothetical and mock business scenarios. These interventions would not only teach knowledge about emotional intelligence and social intelligence but also how they are interrelated and how they impact the group. These training interventions can include 360-degree feedback, coaching, group dialogue, assessment centres and action learning to build personal and social competencies related to specific development in the workplace (Cherniss and Goleman, 2001:278). Theory U has incorporated a structured approach into the process of human development, adopting an action learning approach, which is a phenomenological practice of presencing (Gunzlaugson and Brendel, 2019:156). This is a good approach to get delegates into a coaching programme to understand how action learning and transformation happen.

## 8.5 Research question 3

*Whether a framework using emotional intelligence can be developed to grow social capital among UKZN academics to raise third stream incomes at the university?*

### 8.5.1 Value of conducting emotional intelligence development

The study found that participants were familiar with the definition of emotional intelligence but did not fully understand emotional intelligence. An understanding of the models of emotional intelligence will provide academics with a frame of reference that will allow them to understand, better manage and develop their emotional intelligence competencies. The understanding of emotional intelligence theories is a valuable tool that can improve one's success in life and in the work environment; therefore, this should extend to development and measurement to enhance one's understanding and self-management (Razzaq, 2016:39)

A training intervention to build knowledge and practical application of emotional intelligence in attitudes towards third stream income generation would be beneficial to academics aspiring to engage in third stream income generation. The correlation coefficient between whether **UKZN promotes a culture of innovation and entrepreneurship among academic staff members** and **I believe it is important to conduct emotional intelligence development for staff interested in pursuing third**

**stream income initiatives at UKZN** was -0,101, meaning that there is a high negative correlation between the two statements. This means that there is a lack of promotion of a culture of innovation and entrepreneurship and insufficient development of emotional intelligence for third stream income generation. This warrants the need to develop interventions to promote a culture of innovation, entrepreneurship and emotional intelligence towards attitudes third stream income generation for academics at UKZN. It has been recommended that the generic approach to National Systems of Innovation (NSI) be revisited and the focus should be on strengthening institutions involved in science, technology, and innovation. Human capital development needs to be the highest priority (Walwyn and Cloete, 2018:5).

### **8.5.2 Developing entrepreneurial academics for third stream income generation**

The study found that academic leadership does support an entrepreneurial culture among academics but does not pay sufficient attention to developing the entrepreneurial traits of academics, with only 15% of the respondents feeling that middle leadership creates opportunities to develop entrepreneurial traits. Only 8% of the respondents felt that middle leadership at UKZN motivates academics to be entrepreneurs; 15% of the respondents felt that the university promotes a culture of innovation and entrepreneurship among academics; and 17% of the respondents felt that UKZN middle leadership promotes a culture of third stream income generation among academics. There was a significantly high negative correlation of  $-.213^*$  between the statements: **I believe that taking on third stream income responsibilities will be stressful for academics** and **I believe it is important to develop an entrepreneurial mindset in the academic staff at UKZN**. This is evident from the fact that academics felt that they were not well developed to be entrepreneurial and saw participation in third stream income generation as stressful. This shows that development in emotional intelligence can help develop the following competencies in academics at UKZN self-confidence, motivation, adaptability, initiative, emotional self-control, and optimism. These are some of the emotional intelligence competencies that can help academics develop an entrepreneurial mindset and work through any fears with respect to participation in third stream income generation.

Leadership at universities should consider promoting social capital among academics to spur academic entrepreneurialism and participation in third stream income generation. The research found that in some foreign countries, private investors establish commercial units

at universities and get academics to participate using a profit-sharing model. It was found that participation in third stream income generation among academics at UKZN is low. Universities have business opportunities that can be developed from their core business, infrastructure and assets. A third stream income generation model can be developed by taking stock of strengths and factor what is to be developed in academics to support them in developing positive attitudes towards third stream income generation.

The study found that leadership and academic staff have the potential to contribute to third stream income generation as they have the knowledge, skills, expertise, and networks. Leadership at universities was identified as key to influencing the entrepreneurial mindset in academic staff and supporting and motivating them to participate in third stream income activities. This would require facilitating the necessary capacity building of entrepreneurial traits and skills interventions needed to engage in third stream income generation.

The study found that academics at a university function in an environment enshrined in the freedom to explore and contribute to new knowledge through research, teaching, and publishing. Only 25% of the respondents indicated that a culture of entrepreneurship exists among academics. The university environment is an ideal test bed for academics and academic leadership to take advantage of this opportunity and use their knowledge and expertise to innovate, explore, and participate in third stream income activities. In nurturing the culture of positive attitudes towards third stream income generation, the approach must be sincere and compelling. Academic leadership should be charismatic and able to encourage and motivate academics to participate in third stream income generation.

In developing a culture that promotes positive attitudes towards third stream income among academics, leaders must display high levels of social awareness and show empathy for the demanding workload of academics. In this study, 65% of the respondents indicated that the workload is cumbersome and is a barrier to third stream income generation. Academic leadership should be able to manage the territorial nature and competition that may exist among academics with respect to third stream income opportunities. This may negatively impact the creation of social capital. The leadership of academic institutions is required to promote organisational adhesiveness using creativity, tenacity, positive energy, intuition, and consideration of other members of the organisation to establish a culture of change (Bass and Avolio, 1993). An approach would be to consider these theoretical boundaries when

applied to academic entrepreneurship and non-commercial activities such as research or community engagement (Abreu et al., 2016:23).

### 8.5.3 Developing a balance for participation in third stream income

The study found that the uptake of staff to participate in third stream income generation was not at the desired levels. Academics cited academic workload, the need to prioritise professional development, family responsibilities, and a lack of opportunities as some of the reasons. The correlation between the statements: **Academic leadership at UKZN creates opportunities to motivate academic staff to be entrepreneurs** and **The workload at UKZN is too cumbersome to engage in third stream income activities** was -0,144, which has a negative relationship which means that academic leadership is not sensitive to staff who want to pursue third stream income and expect staff to carry heavy work loads and still engage in third stream income.

Academics felt it was important for academic leadership to understand them as holistic beings who cannot separate their family life from their work. Academic leadership should devise methods to create a mind shift with academics who have an aversion to or fear of participating in third stream income. It was found in the study that academics have a propensity to change, with 75% of the respondents indicating that they are open to change and 67% of the respondents indicating that they are change agents at UKZN. Academic leadership can tap into this and create mechanisms to introduce new ideas for entrepreneurial activity. Understanding the change process will provide university leadership with the knowledge to support academics in the necessary mindset change required to embrace more entrepreneurial thinking and engage in calculated risk in third stream income opportunities. In a study by Haricharan (2015:217), adaptability had the strongest correlation to leadership performance and the second-highest difference in mean between the high and low performing leaders and openness was one of the factors that were found in the study to promote adaptability. Transformational leadership creates a shared vision within the group or organisation, adopting a caring approach to facilitating members by supporting, mentoring, and coaching them in the organisation (Bass and Riggio, 2006:4).

There was a significantly high negative correlation of  $-.317^{***}$  between **I believe that taking on third stream income responsibilities will be stressful for academics** and **I believe that I possess valuable expertise and networks that can benefit**

**third stream income initiatives at UKZN.** This shows that a large percentage of respondents felt that they did not have the skills or networks to engage in third stream income. This shows that development in emotional intelligence will build the confidence of academics and intervention in social capital could help academics build networks and entrepreneurial development will help academics learn skills to engage in third stream income.

In a study conducted on the effect of emotional intelligence on problem solving in business, a survey containing 73 questions combining the emotional intelligence clusters of Daniel Goleman with problem solving was done. The sample of 135 white collar workers found that the data had a regular factor analysis, displaying a significant value in KMO of 0,545, which was expressed as emotional intelligence, communication skills and intrapersonal awareness. It is evident that Goleman's model of emotional intelligence is reliable in establishing the value of emotional intelligence in relation to problem solving (Yalın and SÖZEN, 2015:104). Therefore, this is encouraging when looking at applying the emotional intelligence domains and associated competencies (Goleman et al., 2002) to develop competencies for academics in third stream income generation. Third stream income generation requires knowledge and skills in problem solving.

#### **8.5.4 Requirements for effective leadership of third stream income**

The study found that it is important for candidates who are considered for leadership roles to be assessed for their emotional intelligence skills and that emotional intelligence development must be conducted with existing leadership and when new leaders are appointed. The quantitative and qualitative results from the study conducted on the correlation between emotional intelligence and the performance of public service leaders revealed a strong, positive and significant correlation in all four domains of emotional intelligence, namely self-awareness, self-management, social awareness and relationship management (Haricharan, 2015:212). A 2012 USA study affirmed that 50% of university presidents identified fundraising as a number one or two responsibility, spending between 3,85 and 20 days a month on fundraising (Burns, 2021). It is important that leaders of academic institutions are familiar with the different models of leadership. A suggestion by a participant was that the Blanchard model of leadership can be used to determine the choice of leadership style based on the situation and circumstances. Ken Blanchard states that leaders must adapt their style of leadership to the ability and maturity of the people, have

relevant diagnostic skills, a wide selection of management styles and be courageous enough to make decisions (Covey, 1992:284)

The study found that there is a disjointedness between academics and the middle leadership of the institution with respect to third stream income generating efforts. It also found that 46% of the respondents felt that individuals who are appointed to leadership positions should undergo entrepreneurial development training. There was a high negative correlation of -0,112 between the statements: **I feel that candidates applying for academic leadership positions at UKZN should undergo an entrepreneurial leadership assessment as part of the academic appointment and promotion processes** and **I find that the UKZN academic leadership creates opportunities for academic staff to build entrepreneurial personality traits**. This means that academic leadership is lacking in competencies in entrepreneurial leadership, and this could be the reason for their lack of ability to promote entrepreneurial opportunities for academics. Participants felt that if leaders did not have the necessary leadership traits and competencies, they would find themselves in very challenging positions, which could impact their personal health and wellbeing. Academic leadership is required to be resilient, have strong resolve and be able to deal with a host of different challenges at the university. They should be motivated enough to lead and inspire the academics. They require high levels of self-esteem and self-awareness to be respected leaders. A study of Nigerian academics found that self-awareness in academics helped them to identify, admit and understand personal and institutional strengths and weaknesses and develop skills to address the challenges. The Nigerian study found that self-awareness in academics generated value, developed knowledge about their emotions and provided the ability to work through solutions and corrective actions in addressing their challenges (Igbafe, 2016:226).

Visionary leaders are empathetic, self-confident and drivers of change. Affiliate leaders are empathetic and highly adept at relationship building and conflict management. Leaders who are serious about transformation create an environment that is hospitable and promote a culture of innovation, creativity, risk-taking and exploration to create change (Bass and Avolio, 1993:115). Democratic leaders promote collaboration and teamwork, are good listeners and are highly effective at communication (Cherniss and Goleman, 2001:42). Academic leadership should implement mentoring programmes, source innovation grants for junior academics, secure research and conference grants and establish linkages with the

public and private sectors (Mushemeza, 2016:244). There was a strong negative correlation between the statements: **I believe that taking on third stream income responsibilities will be stressful for academics** and **Academic staff at UKZN should be continuously developed in the field of entrepreneurial creativity and innovation**. This shows that a large number of participants felt that there is insufficient development of academics to be creative and innovative, which is required to be effective in third stream income generation. This shows that there is a need for more developmental interventions in innovation and creativity.

The study found that leaders responsible for third stream income must be wary of cliques and academics becoming territorial. It was felt that leaders must ensure that the pipeline of academics is capacitated for leadership roles and that succession plans are in place. Academic leadership must be able to streamline activities, which will help free academics from unnecessary work and this would contribute to their motivation. It was also found that the geographic spread of campuses at UKZN reduced the opportunity for academics to engage with more of their academic peers. The study found that the system and operations needed to be reviewed to bring about more efficiencies in the system.

An important aspect of agile entrepreneurial university leaders is that they identify drivers of change and match or develop organisational capabilities to address the stimulus of change in the environment (Yaghoubi et al., 2019:4). Change in higher education is not about joining the dots but developing an appreciation for the dots. The dots represent the people who are workers and contributors to the system (Buller, 2014:94). In facilitating change, leaders are required to have a deep understanding of the organisation, acknowledge past objectives and revisit them to extract inspiration to build on strategic intent (Bass and Avolio, 1993:115). There was a negative correlation of -0,021 between the statements **I believe that academic leadership at UKZN promotes a favourable culture to grow third stream income** and **I am always adaptable to change**. This shows that although a large percentage of respondents were adaptable to change, they were not well supported by academic leadership to help develop a culture for change with respect to third stream income. They have the knowledge to advise on changes in organisational culture, human capital, processes, organisational structures, and behaviour required for adaptation in an advancing technological environment (Church and Burke, 2017:20). Higher education institutions require visionary entrepreneurial leadership to create a collective vision among academics,

administrative staff, students, funders, and other constituencies of the university to bring about positive change (Buller, 2014:39). Staff feel affective commitment when they are recognised and respected in their organisations and normative commitment is reinforced when organisational norms and values are internalised, through engagement and socialisation (Shi-Huei Ho and Yao-Ping Peng, 2016:3). Good leaders can discriminate between relevant and irrelevant emotions, which allow them to be in tune with the academics of the organisation. Transformational leadership is like charismatic leadership but is only a part of the leadership style (Bass and Riggio, 2006).

Transformational leadership sets the desired culture of change by establishing organisational norms to manage the behaviour of participants, and these leaders set the tone by example, which they also use to develop others (Bass and Avolio, 1993:113). Transformative leaders can create effective change in culture, promote partnerships and eradicate poor performance. Sensing allows good leaders to identify opportunities, predict global trends, recognise institutional threats, and build on quality. Higher education leadership can connect the internal and external environments and align the university to the new emerging vision (Wadhvani et al., 2017: 4). Transformational leaders motivate and inspire followers to push the boundaries of their abilities, explore their creativity and empower them to develop their leadership abilities (Bass and Riggio, 2006:3).

Higher education institutions are provoked by change to review policies, protect elements in the system that work and discard what is no longer useful to the efficient functioning of the system (Buller, 2014:56). Academic leadership that is effective in change management use the tested academic rigour that works in the research process, where they allow the facts to lead to the solutions. Change management focuses on the end goal and continuously monitors progress toward the target destination (Buller, 2014:92). Leaders in effective organisations make use of strategy and tactics and build desired cultures to support their vision (Bass and Avolio, 1993).

The study found that there is a tendency for good researchers to be promoted to leadership positions in higher education systems. It is not an indictment of academics, but an observation made by participants. They felt that supervising students was not the same as supervising academics in third stream income and commercial ventures. Leadership progression at universities is characterised in most cases by leaders who have progressed through the system based on academic teaching and research achievements rather than being

promoted based on leadership and management expertise (AI-Youbi, 2021:49). Decisions are taken with limited consultation by the academic leadership, creating a distributed organisational culture that is bold, instinctive, and firm, which will negatively impact the morale of the staff, making them feel disregarded. Also not gauging insights from a notably educated workforce is an inefficient use of resources, and leadership is required to display sincere intent to engage and be reflective to effect successful change (Buller, 2014:88). Interpreting higher education through an organisational behaviour lens explains many change management interventions failed because decision makers were viewed as being separate from decision implementers, whereas in a department they are the same (Buller, 2014:20). Academics sometimes view the initiation of change with suspicion, as institutional leadership are seen to initiate change because they want to build credibility, justify a high salary, or build a profile (Buller, 2014:57).

#### **8.5.5 Incentivising third stream income through performance management**

Academics at UKZN are constantly bombarded with responsibilities and they are searching for strategies to do things better and survive within the performance management system. To get people to collaborate at UKZN, the performance management system needs to be revised as it is geared toward individual development, which involves getting publications and everyone must do the same thing with no flexibility. To get a bonus, academics are expected to work towards meeting points on the performance management system, which include publishing, supervision and applying for grants in the KPAs of academics. There needs to be a mind-shift change. A participant felt that the line of sight, which is a performance management tool, aligns people's performance to the strategic goals of the organisation and the annual performance plan of the institution. It was stated that the problem with the line-of-sight model is that the decision rests on the engagement between the line manager and the academic in ensuring that the indicators align with the annual performance plan. A participant stated that the performance management system has become a siloed and selfish system where academics are only looking at how they achieve their KPIs and how they get promoted.

#### **8.5.6 Learning and capacity building for third stream income**

HEIs need to ensure that capacity building develops the necessary competencies in academics for third stream income generation. Individuals in an organisation bring their knowledge, skills and expertise to the organisation and influence organisational dynamics.

Learning comes intrinsically and naturally to humans who are inquisitive and capable of learning (Senge, 1990:4). Modern universities go through the process of organisational learning, which includes shared vision, team learning, teamwork, knowledge sharing, systems thinking and developing organisational competencies (Moghadam et al., 2016:240). The study found that there was a constant change in leadership, and this hinders the continuation of institutional knowledge and the transfer of learning with respect to attitudes towards third stream income generation. Internal social capital contributes to the long-term performance culture and institutional learning of the organisation (Shi-Huei Ho and Yao-Ping Peng, 2016:1). Every human being has participated in a collective activity where a group came together, complemented, and supported each other to achieve a particular task that was built on a trusting relationship (Senge, 1990:4).

Capacity building for third stream income generation should be ongoing and accessible to all academics. There should also be interventions, such as workshops with academic leadership on how to support developing positive attitudes towards third stream income generation. Universities are learning organisations that promote lifelong learning while also adopting the culture of knowledge management, embracing change, and acknowledging feedback from stakeholders (Maric, 2013:224). The study found a need to develop the culture of a learning organisation where academics must engage in constructive dialogue and be open to criticism to ensure that continuous improvement is being affected in third stream income-generating efforts. The learning organisation is where members of the organisation work to continuously improve their capabilities to advance the organisation and achieve the envisioned outcome (Senge, 1990:14).

Institutions that are designed for agility are unique in structure and commit to human capacity development and continuous learning, making effective use of new information found in entrepreneurial universities (Yaghoubi et al., 2019:2). It is imperative that universities implement training programmes for newly appointed leaders and administrators. It needs to address governance, the establishment of structures and decision-making, and include the softer skills of promoting consultation, multi-level channels of communication, and keeping staff informed of developments, processes, and regulations (Mushemeza, 2016:244). Mindful leadership encourages us to engage more with our environments and assimilate them into the context without attaching a narrative and meaning to the context (Buller, 2014:91).

It is important that the university conduct regular skills audits as the cohort of academics is in constant flux with people either changing roles or moving out of the institution, allowing for new academics to fill posts. A skills audit should be conducted at the university, which must determine what skills and gaps in the skills exist, and what new capacity building is required. Workplace Skills Plans (WSPs) are mandatory for HEIs, but what needs to be determined is if WSPs address the needs of developing academics with respect to generating third stream income.

It is also important to develop a system at universities where capacity development is monitored and evaluated for impact. The capacity development unit focusing on developing the capacity of third stream income should be a permanent structure of the university. The study found that this unit should develop skills in proposal writing and research grant applications and provide support such as editing, graphic design and research. It was stated by a participant that one school at UKZN has an effective unit that has the necessary income generating support for academics and UKZN InQubate provides project management support across UKZN. The capacity-building unit can employ informal initiatives such as networking sessions and adopt a more formal approach, such as training workshops. It was determined that UKZN does not have sufficient capacity-building workshops to develop the entrepreneurial skills of academics. Only 18% of the respondents felt that entrepreneurial workshops for academics are conducted.

The study found that many academics have not been exposed to industry as their career development was in the education sector, progressing from being students to academics. Universities should consider adopting a programmatic approach to placing academics in industry or developing programmes in partnership with industry to allow academics to gain experience in their field of expertise. In the process of ensuring that capacity building is contemporary, academics will benefit from the time spent in industry as they will be exposed to developments in the field. Engineers are required to spend time in industry to obtain their professional accreditation.

## **8.6 Summary of the findings**

- There is a recursive relationship with emotional intelligence, social capital and third stream income generation.

- Executive, senior and middle leadership have indicated the importance of third stream income and expressed their support for increased academic participation in third stream income generation.
- UKZN is undergoing a renewal process in an environment of rapid transformation in the university sector, which is impacted by volatility, uncertainty, complexity, and ambiguity.
- UKZN is striving for excellence but is operating in a highly competitive environment.
- The university is experiencing an erosion of skills with the retirement of experienced academics who have skills in generating third stream income and the onboarding of a new cohort of young, mostly black academics that require development.
- UKZN does not have a clearly defined programme to develop entrepreneurial academics to support third stream income generation.
- Academics are experiencing challenges in coping with professional development, balancing personal lives, contending with internal strife at the university, and do not have the necessary skills, knowledge and support to engage in third stream income generation.
- It was evident from the study that social capital and emotional intelligence are important factors in promoting participation in third stream income generation. However, there is limited evidence to show that these elements are being developed to drive participation in third stream income.
- There is evidence that there are trust issues between academics, and between academics and academic leadership.
- There is also evidence that there are insufficient skills amongst academic leadership to support academics in entrepreneurial development to engage in third stream income activities.
- There is strong evidence that academics possess good networks, knowledge, skills but there are weaknesses in the promotion of collaboration although structures exist to promote collaboration.
- Academics work in an environment where they pride themselves of developing new knowledge and intellectual property and this needs to be treated with confidentiality.
- There is a call from academics for more development in the promotion of innovation, creativity, and entrepreneurialism.

## 8.7 Justification for the development of a coaching framework

In revisiting the topic, aim of the study and research questions the researcher provides a justification for presenting the VIEW coaching model as a contribution to the study. The title: *Exploring how the emotional intelligence-social capital nexus in academics impacts third stream income: A case study of UKZN*. The intention of the study was to explore how the emotional intelligence – social capital nexus in academics impacts third stream income. The study has shown that there is a recursive relationship between emotional intelligence, social capital and attitudes towards third stream income. The research has answered the three research questions.

Whether the creation of social capital among UKZN academics, is important to third stream income generation for the university and if so, why?

The findings have shown that social capital among UKZN academics is important to developing positive attitudes towards third stream income generation at the university.

Whether the development of emotional intelligence contributes to strengthening the social capital of UKZN academics for third stream income generation and if so, how?

The findings have shown that the development of emotional intelligence contributes to strengthening the social capital of UKZN academics in developing positive attitudes towards third stream income.

Whether a framework using emotional intelligence can be developed to grow social capital among UKZN academics to raise third stream income at the university?

The VIEW coaching framework using emotional intelligence to grow social capital was developed from the findings and will be tested in future studies.

UKZN academics, by virtue of being employed as academics, have the necessary qualifications, skills and knowledge in their professional roles. They are involved in continuous academic development through professional development, research and engagement in their field of expertise. Participation in third stream income is not a requirement of the job function of academics at public universities. The study has found that some academics feel that third stream income is not part of their job and that it should be the government's responsibility to provide the necessary resources to allow academics to deliver

on their responsibilities, which are teaching, research and the supervision of students. However, the thesis has built a case for the advantage of third stream income and its contribution to the sustainability of the university. Case studies from other universities have been provided on how third stream income can be generated. The question of the new managerialism approach to universities was raised in Chapter One. Public universities, by choosing to adopt a corporate approach to promoting sustainability, are embracing the entrepreneurial university concept. UKZN in its Strategy 2017- 2021 has shown that it is embarking on this path, and evidence is provided in the study that academic leadership is promoting and supporting this thinking. The point of contention is that academics are not required to participate in third stream income. However, it can be beneficial to the university and those academics that participate in third stream income may do this in part through social benevolence or be motivated by profit sharing models based on the policy of the university.

The reason the researcher is proposing a coaching model is that it is a holistic developmental model. The coaching model is an option to address the new managerialism approach of universities and create a more human-centric approach to development. This approach will assist the academics in identifying their personal challenges and limitations and working on individualistic development. The study has also identified that academics experience challenges with having time to engage in third stream income as they may be preoccupied with personal and professional pressures. A coaching approach will be able to establish a focused and targeted approach to development in working with academics to resolve underlying challenges and develop their confidence and motivation. This process helps develop the emotional intelligence of academics but uses emotional intelligence to better understand and engage in the development process. The process will also use a caring and empathetic approach to development and work towards building more trusting relations among academics.

It is evident from the research that there is a recursive relationship between the three concepts that formed the basis of the study, namely emotional intelligence, social capital and attitudes towards third stream income. This has been proven by the empirical structural equation model presented in Chapter 7. This has been supported by positive correlation equations, which show the strengths of the relationships. The qualitative part of the study also produced evidence that emotional intelligence is vital for supporting the development of positive attitudes towards third stream income initiatives. Emotional intelligence was identified as an

important trait for building fertile relationships between academics and academic leadership in third stream income generation and collaborations. Emotional intelligence was also important for helping build external relations for the benefit of commercial projects and partnerships for the university. It was also found to be effective in motivating academics, contributing to the management process and empathy which came out as a common factor and was deemed necessary to strengthen relations in third stream income. Emotional intelligence was also found to be the medium to unlock the social capital resources that academics held.

The three dimensions of social capital—structural, cognitive, and relational—were identified as related to and important to emotional intelligence. The structural concepts (network ties, network configuration and appropriable organisation) were found to be important to find suitable academics that have the necessary resources that could be tapped into to access social capital. The cognitive dimension (shared codes and language and shared narratives) was found to be important in the transfer of skills, information and knowledge in building the capacity of academics for participation in third stream income initiatives. The relational dimensions of trust, norms, obligations, and identification were identified as important to improving interpersonal relations in groups for third stream income generation.

The study also found that there was a need for development in emotional intelligence, collaboration and sharing of resources, which are important to social capital. These were identified as important for developing the entrepreneurial skills of academics that are required for participation in third stream income. The study found that academics are individuals focused on professional development, and everyone has their own professional identity. Academics' identities are defined by their diversity, personal background, individual experiences, different skills, abilities to manage complexity, different priorities, and different world views with respect to being entrepreneurial. This individualism presents a strong case for individual development that is aligned with the coaching approach discussed in Chapter 2 and highlights some of its successes. The section in Chapter 2 also covers academic entrepreneurialism, which uses methods such as incubation to develop entrepreneurial academics. This thesis concludes that a coaching intervention is the most suitable method to develop the emotional intelligence and social capital nexus in academics to promote positive attitudes towards third stream income generation.

## **8.8 Implications of the study**

### **8.8.1 Implications of research**

- This thesis will stimulate interest and motivate researchers to further research emotional intelligence and social capital nexus in academics to promote positive attitudes towards third stream income generation.
- A comparative study can be done on academics in public and private universities and could extend to international universities operating in South Africa. This can explore the culture of third stream income at these universities and factors that impact both emotional intelligence and social capital of academics.
- Emotional intelligence and social capital are impacted by cognitive processes and personal experiences, and an ethnographic approach would provide important data.
- The proposed framework can be tested to collect data on its effectiveness and further data can be collected to inform the impact on attitudes towards third stream income.

### **8.8.2 Implications for theory**

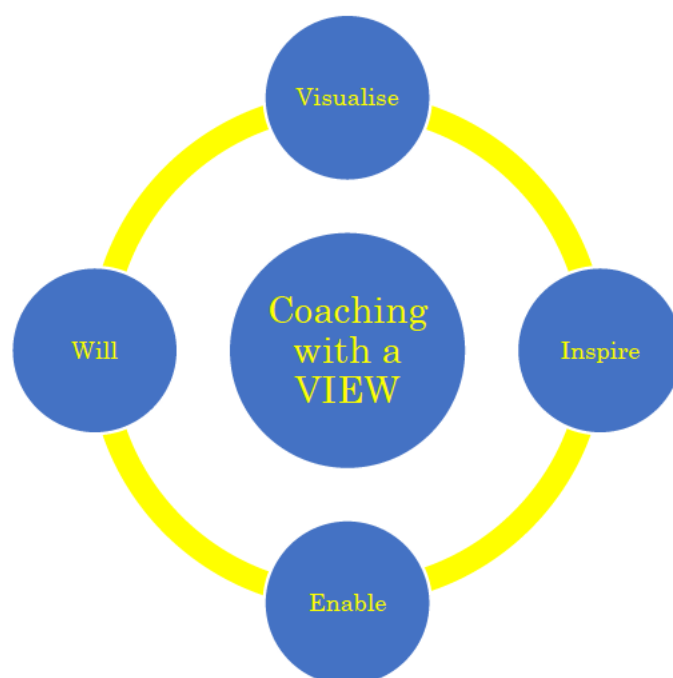
- The Goleman theory of emotional intelligence and competencies tends to have a bias towards emotional intelligence from a leadership perspective and it needs to develop a two-way methodology that looks at emotional intelligence from a leadership and subordinate perspective in the same context.
- The theory of emotional intelligence and social capital can also consider how artificial intelligence can be used in studying the phenomena of the emotional intelligence and social capital nexus and its implications for developing academics attitudes towards benefiting third stream income generation.

### **8.8.3 Implications for practice**

- Having a good understanding of the domains and competencies of emotional intelligence creates a frame of reference for the self-management of emotional intelligence.
- The study found a disconnect between academic leadership at UKZN and promoting a culture of innovation, creativity and entrepreneurship in relation to the development of emotional intelligence. This creates an opportunity to develop a framework using emotional intelligence and social capital to promote a culture of innovation, creativity and entrepreneurship among academics.

## 8.9 Contribution of the study: The coaching framework

The researcher provides the Coaching with a VIEW framework below as a contribution to the field to facilitate the learning and development of academics in building skills to enhance third stream income generation in higher education. The framework has three parts: the first is the coaching framework; the second is the process that will be followed in capacity building; and the third is the framework, which can be customised depending on the needs of the individual. It is the researcher's intention to use the framework to develop an application using artificial intelligence, allowing the longitudinal data of machine learning supported by diagnostic data to inform the development of the application.



*Figure 8. 1 Coaching with a VIEW framework for developing academics in third stream income*

The framework will use the following steps to conduct the coaching intervention.

**Visualise:** It is important to use mental models and visualisation to get the coachee to create mental frames in the development process. In the coaching journey, the incumbent will be encouraged to visualise what needs to be achieved. Visualisation is using one's imagination to see oneself in a situation that is yet to happen while forming a mental image of having achieved the desired outcome (Kehoe, 2005:15).

**Inspire:** It is important for the coach to inspire the coachee in the journey to maintain interest and motivation in the process that will unfold. This is when one articulates a shared vision that resonates with the other, having the purpose of motivating (Daniel, 2013b:166).

**Enable:** The coach will tap into the strengths, learnings, knowledge and experience of the coachee to enable intrinsic development. Providing enough knowledge and information to inform choices and make compelling decisions to subscribe to the decision (Waddell, Cummings and Worley, 2004:76).

**Will:** The coach would then create inertia by tapping into the emotional self of the coachee to create the conscious will to evolve and adapt the new learning to apply in the developmental journey. This is the desire to effect change, which relies on the inner spirit of an individual to effect preservation and adaptation while finding a balance (Cherniss and Goleman, 2001:247).

### Coaching with a VIEW process



*Figure 8. 2 Coaching with a VIEW process for developing academics in third stream income*

Based on the findings from the study, the researcher identified 11 areas that are important to developing competencies in improving academics attitudes towards third stream income generation. The coaching with a VIEW process was established based on the prominent themes that were established in the study and discussed in the findings in Chapter 8. This was contextualised into the logic process, taking into consideration the learning process in entrepreneurial development. The 11 areas used to develop a coaching framework for developing competencies for improving positive attitudes towards third stream income generation is presented in Table 8.1 below. The study also found value in using the emotional intelligence domains and associated competencies model (Goleman, Boyatzis, and McKee, 2002) and the three-dimensional theory of social capital proposed by Nahapiet and Ghoshal (1998) to underpin the holistic framework presented below. Modern universities go through the process of organisational learning by gauging a shared vision, team learning, teamwork, knowledge sharing, systems thinking and developing organisational competencies (Moghadam et al., 2016:240). It is important to look at the psychological and motivational factors of academic entrepreneurs considering emotional intelligence as identified in the two-factor entrepreneurial emotional intelligence model, investigating the individual domain (personality; motivation; experience) and contextual domain (societal, market environment, and economy) (Miranda, Chamorro-Mera and Rubio, 2017:114).

*Table 8. 1 Themes for entrepreneurial development*

A	Networking
B	Entrepreneurial Culture
C	Interpersonal Relations
D	Entrepreneurial Development
E	Personal Strengths
F	Entrepreneurial Leadership
G	Academic Workload
H	Entrepreneurial Knowledge
M	Concerns / Shortcomings
X	Emotional Intelligence
Y	Leadership Traits

Table 8.2 below maps an example of how the emotional intelligence competencies will be used in the coaching intervention. The researcher identified the most prominent competencies that would be used in the VIEW framework, but it would also require the knowledge, skill, and experience of the coach to determine which competency will be predominant in the specific intervention and call upon the knowledge of the competency to apply it to the engagement with the coachee.

One component is used here to explain how the process will work based on the first row of Table 8.2 below. In establishing the coaching relationship, the coach will rely on emotional self-awareness to get the coachee to visualise what needs to be achieved in the intervention. In emotional self-awareness, the coachee is made aware that their inner signals impact their ability to accomplish the task at hand. It will connect to their values, which will aid in decision-making and get them to see the big picture (EQC1). The coach will draw on optimism to inspire the coachee in the coaching relationship. This is when the coach will use a positive perspective to breed excitement into the envisioned journey and draw on the coachee’s strengths and desires while always remaining authentic by not using the process to manage the coachee’s ego. (EQC9). In enabling the coaching relationship, the coach will use empathy, which would involve deep and sincere listening and care. In establishing the will, the coach will use influence. This would involve skills of persuasion to create a mental model of a happy and productive journey.

*Table 8. 2 Coaching with a VIEW rubric*

	Visualise	Inspire	Enable	Will
Establish coaching relationship	Emotional self-awareness	Optimism	Empathy	Influence
Candidate to complete diagnostic analysis	Transparency	Initiative	Emotional Self control	Accurate Self awareness
Vision the entrepreneurial journey	Organisational awareness	Service	Developing others	Building bonds

Identify personal strengths	Accurate self-awareness	Self confidence	Initiative	Emotional self-awareness
Resolve bottlenecks	Emotional Self Control	Change catalyst	Building Bonds	Conflict Management
Enable entrepreneurial thinking	Teamwork and collaboration	Achievement	Empathy	Organisational Awareness
Conduct entrepreneurial development	Adaptability	Optimism	Achievement	Developing others
Reconcile with objectives	Achievement	Self-awareness	Accurate self-awareness	Service

*Table 8.3 Coaching with a VIEW intervention*

<b>Number</b>	<b>Activity</b>	<b>Duration</b>
<b>1</b>	Establishing the Coaching Relationship <ul style="list-style-type: none"> <li>• Mutual introductions</li> <li>• Define the coaching goals</li> <li>• Develop the coaching plan</li> <li>• Set the boundaries.</li> <li>• Conclude the coaching contract</li> </ul>	<b>2 hours</b>
<b>2</b>	<b>1.</b> Candidate to complete diagnostic assessment. <ul style="list-style-type: none"> <li>• Candidate takes the diagnostic test</li> <li>• Coach and Coachee discuss the assessment report</li> <li>• Map the social and emotional development plan.</li> </ul>	<b>As specified by Hay Group</b>
<b>3</b>	<b>2.</b> Vision the Entrepreneurial Journey <ul style="list-style-type: none"> <li>• Discover the vision.</li> <li>• Identify the milestones and measurement.</li> <li>• Set the goals.</li> <li>• Document the developmental plan.</li> <li>• Discuss and reach consensus.</li> </ul>	<b>3 X 2 hours</b>

4	3. Identify Personal Strengths <ul style="list-style-type: none"> <li>• Identify strengths from diagnostic.</li> <li>• Align the strengths to the developmental plan.</li> <li>• Start the change process.</li> </ul>	<b>2 x 2 hours</b>
5	4. Resolve: Bottlenecks <ul style="list-style-type: none"> <li>• Identify negative emotional feelings. and work through.</li> <li>• Identify shortcomings that are affecting participation in attitudes towards third stream income and resolve.</li> <li>• Remove all fear of the entrepreneurial process.</li> </ul>	<b>2 x 2 hours</b>
6	5. Enable: Entrepreneurial Thinking <ul style="list-style-type: none"> <li>• Use narratives to inspire.</li> <li>• Identify opportunities and align to coachee's strengths.</li> <li>• Develop a safety net for the process.</li> </ul>	<b>2 x 2 hours</b>
7	6. <b>Conduct:</b> Entrepreneurial Development	<b>As required</b>
8	7. Reconcile with Objectives	<b>2 hours</b>

### 8.10 Summary

The chapter used literature and qualitative and quantitative results from the case study to produce findings that were relevant to the topic and the three research questions. The study has shown that participants felt that there is a relationship between emotional intelligence and social capital, which aggregates the influence of attitudes towards third stream income generation. The chapter looked at the positive and negative effects of human dynamics on the creation of third stream income and provided some solutions using emotional intelligence to harmonise the environment within a university, making it conducive for academics to work in solidarity and contribute to third stream income generation. The chapter develops a strong case for conducting capacity building using emotional intelligence to build sustainable skills in academics that will support the attitudes towards third stream income generation. It also outlines the value coaching has in capacity development and provides an example of a method to create change and transformation in individuals. The learning will be taken and applied in the next chapter, which will draw conclusions, provide recommendations and make a contribution to the study.

## CHAPTER 9: CONCLUSION AND RECOMMENDATIONS

### 9.1 Introduction

This chapter is based on the previous discussion chapter, producing findings that were corroborated with previous related studies done on emotional intelligence, social capital, and attitudes towards third stream income. A few of the findings were novel based on this research study. This chapter presents the researcher's overall conclusion for each of the research questions and provides recommendations. The limitations and suggested future areas of study are discussed, and a summary concludes the chapter.

#### Novel findings

- The emotional intelligence – social capital nexus is a contributor to promoting academic attitudes towards third stream income.
- The intention of third stream income generation requires a clear formulation of policy aligned to processes and support structures that need to be explicitly communicated to have an impact on participation at UKZN.
- Research into third stream income should be more disciplinary-specific; it is not practical to compare commercialisation of research in the humanities with science or commerce, and generalisation of third stream income dilutes the value of results.
- The study found that there is no formal coaching framework that uses emotional intelligence and social capital to build capacity among academics to raise attitudes towards third stream income at universities.

The study found that emotional intelligence and social capital are valuable contributors to developing academics attitudes towards third stream income generation. The study also found that there is value in developing a framework using emotional intelligence to enhance the capabilities of academics in developing entrepreneurial capabilities to improve their attitudes towards third stream income generation. A coaching framework was developed to enhance emotional intelligence and social capital nexus attitudes towards third stream income generation in academics at UKZN who are keen on engaging in third stream income. The purpose of the framework is viewed as a holistic intervention, and it would be underpinned by the Emotional Intelligence Domains and Associated Competencies Framework (Goleman, Boyatzis, and McKee, 2002) and the three-dimensional theory of social capital proposed by Nahapiet and Ghoshal (1998).

## 9.2 Research question 1

**Whether the creation of social capital among UKZN academics, is important to third stream income generation for the university and if so, why?**

### 9.2.1 Conclusion

The study found that social capital provides access to information and resources to be applied in third stream income generating initiatives. It found that the three dimensions of structural, cognitive, and relational social capital are interrelated and exist in the provision of social capital for developing positive attitudes towards third stream income. The conceptual distinctions are convenient for analysis. In reality, social capital has multiple interrelationships among the three dimensions (Claridge, 2018:1). The network and network ties and appropriable organisation, generate social capital for access to resources. Universities are shifting their position from being creators and disseminators of knowledge to adopting a more entrepreneurial role, involving networking, collaboration, sustainability, and becoming social agents of change, which is in line with the fourth stage of intellectual capital, focusing on adopting an eco-systemic approach to knowledge creation (Fronzizi et al., 2019:1). Information, expertise and experience are transferred through the cognitive dimension of shared codes and languages. The relational dimension of trust, norms, obligations and identification develops relations that allow for the engagement and transfer of information to take place in business. Nahapiet and Ghosal (1998) found that the cognitive dimension can be integrated into the relational dimension as shared narratives showed a strong tendency to be associated with the relational dimension (Fandiño, Formiga and de Menezes, 2019:36).

### 9.2.1 Recommendations

- Develop an intervention for academics to create awareness of the benefits of social capital for developing positive attitudes towards third stream income generation.
- When individuals apply for leadership positions, they should undergo emotional quotient testing to assess their level of emotional intelligence related to entrepreneurial competencies.
- Academic leadership at UKZN should create opportunities for academics to engage in networking sessions with academic peers to explore third stream income initiatives.

- It would be useful for the executive leadership of the institution to appoint an independent party to conduct a survey with UKZN academics and academic leadership and identify reasons for the lack of trust.
- The strengthening of network ties between academics for the purpose of collaboration in third stream income generation.
- Academics experienced in third stream income generation should conduct workshops on preparing research grant applications and proposal writing.
- Executive leadership to review institutional policies related to third stream income generation and align the policies to enable an entrepreneurial culture.
- Develop an incentive scheme through the performance management system that rewards contributions and collaboration in third stream income generation.
- Enable and support transdisciplinary and multidisciplinary collaboration in third stream income generation.
- Develop strategies aligned to Goal 2: excellent and high impact in research, innovation, and entrepreneurship.
- Promote a culture of entrepreneurialism and third stream income productivity among academics.
- Develop social and creative spaces on campus to encourage networking and collaboration.
- Provide opportunities at the school board and creative concepts like ideation sessions with the specific theme of third stream income generation.
- Hold regular third stream income symposiums or workshops as part of the university calendar.
- Establish a permanent and well-resourced incubator model to support third stream income initiatives for academics.
- Conduct entrepreneurial development workshops and e-learning platforms to capacitate academics.
- Develop plans and strategies to convert university assets and infrastructure into commercial opportunities.
- Develop an enterprise development model that coordinates all third stream income units.
- Executive leadership responsible for third stream income should be permanent appointments to ensure the sustainability of the approved vision and strategic plans.

- Create opportunities for open and constructive dialogue across colleges, schools, research units and private entities.
- Establish a unit that conducts research and disseminates regular reports on business intelligence.
- Develop an institutional tool that monitors and evaluates third stream income generation.
- Explore a matrix structure for leadership and management of third stream income.
- The REACH<sup>T</sup> (respect, excellence, accountability, client orientation, honesty, and trust) values of UKZN explained in the discussion on the strategic plan below can be deeply entrenched in the culture of the university to drive excellence and contribute to the university's efforts and aspirations in competing for university ranking.
- UKZN academics can engage, utilising the tools of emotional intelligence and social capital to benefit developing positive attitudes third stream income generation to add value to the global ranking criteria.
- UKZN to attract high calibre postgraduate students and academics as they have the propensity to raise large grants.

### 9.3 Research question 2

**Whether the development of emotional intelligence contributes to strengthening the social capital of UKZN academics for third stream income generation and if so, how?**

#### 9.3.1 Conclusion

The study found that emotional intelligence improves, communication, interpersonal relations, collaboration and teamwork, which provide access to information and resources to execute third stream income projects. The study also found that there is a need to develop emotional intelligence in academics who want to participate in third stream income generation. The study also found that there is a disparity in relationships between academics in relation to entrepreneurial endeavours and attitudes towards third stream income generation. A leadership framework using emotional intelligence competencies was developed and customised for the promotion of developing academic's attitude towards third stream income. Goleman and Boyatzis suggest that for leadership development to be effective, there must be a willingness to enter a change programme with a personal vision for change. The delegate must undergo a diagnostic assessment. The candidate can enter a

training programme in a specific area, which in this case will be leadership in third stream income generation, that can take the form of a coaching intervention (Goleman and Boyatzis, 2008:5). The emotional and social competency inventory can be used to conduct the diagnostic assessment that Goleman's Hay Group developed by integrating their emotional intelligence framework, emotional intelligence domains and associated competencies framework (Goleman and Boyatzis, 2008:5). The diagnostic assessment results will inform the candidate and the coach on the design of the development programme.

### **9.3.2 Recommendations**

- Develop a programme using the emotional intelligence domains and associated competencies framework (Goleman, Boyatzis, and McKee, 2002) to build communication, interpersonal relations, collaboration, and teamwork for third stream income generation in academics at UKZN.
- The university should allocate a budget to allow for the assessment of academics who are willing to take the emotional quotient test (EQ) to assess entrepreneurial abilities.
- A training intervention on emotional intelligence should use the emotional intelligence domains and associated competencies framework (Goleman, Boyatzis, and McKee, 2002).
- The coaching programme should also introduce the concept of social intelligence and teach the interrelationship between the two concepts. The emotional intelligence domains and associated competencies framework (Goleman, Boyatzis, and McKee, 2002) can be used to develop the emotional intelligence competencies required for participation in third stream income initiatives.
- Given that UKZN has a diverse community, UKZN's academic leadership is required to promote opportunities for staff to share diverse cultural experiences to foster better inter-relationships.
- Executive leadership should take note of the impact that traumatic experiences have on the morale of academics, and this has a direct bearing on participation in third stream income. Providing support to staff members who have had traumatic experiences will desensitise academics, build trust and facilitate greater opportunities for collaboration in third stream income initiatives.
- Interventions should be developed to capacitate staff in conflict and anger management, which would better equip them to engage in more collaborative

relationships and deal with situations that may arise in a highly pressurised environment.

- In the process of getting academics to buy into a third stream income vision, it was recommended that executive leadership get opinion leaders on board with the process as they would influence others to buy into the process.

#### **9.4 Research question 3**

**Whether a framework using emotional intelligence can be developed to grow social capital among UKZN academics to raise third stream incomes at the university?**

##### **9.4.1 Conclusion**

The study found that there is a need to develop the entrepreneurial capabilities of academics at UKZN for third stream income generation. The framework should start with a diagnostic assessment, which can use the emotional and social competency inventory which is a 360-degree evaluation instrument developed by the Hay Group (Goleman and Boyatzis, 2008:5).

##### **9.4.2 Recommendations**

- Coaching and mentoring programmes develop the emotional intelligence of academics to grow social capital to improve academic's attitude towards third stream income generation.
- Coaching and mentoring should use action learning in the development process and allow for the flexibility of the coach to move between group and individual coaching.
- The coaching intervention should adopt the positive emotional attractor approach, which employs compassion and promotes trust in the process of identifying the true self.
- The coaching intervention should use the principles of intentional change theory when working with academics to develop entrepreneurial traits and promote the creation of social capital to promote positive attitudes in third stream income generation.
- The coaching programme must promote transparency where delegates feel safe to express themselves without fear.
- The coaching intervention should pay attention to developing the listening skills of delegates with respect to entrepreneurial ideas or suggestions.

- Discussion and collaboration on third stream income should be encouraged and supported.
- The coaching intervention should incorporate Theory U with a focus on presencing.
- Academic leadership should establish norms and values that promote trust and interpersonal relations to promote social capital.
- The REACT values to be included in the training intervention.

## 9.5 Study limitations

The researcher identified a number of limitations during the course of developing the study. The following limitations were identified:

- The study did not test the emotional intelligence competencies or propensity for social capital in academics but used the theoretical models to determine the academics perception of the impact of the three-dimensional model of social capital proposed by Nahapiet and Ghoshal (1998) and the emotional intelligence domains and associated competencies model (Goleman, Boyatzis, and McKee, 2002).
- The study focused on the development of social capital using the emotional intelligence domains and associated competencies model (Goleman, Boyatzis, and McKee, 2002) and did not factor other methods that can be used to improve social capital, such as game theory.
- The study framed a large percentage of questions from a positive perspective and should have had a more balanced approach by also framing some questions to test the alternate negative perspective.
- The study had also only considered one site and it should have looked at universities from a regional or national perspective.
- The research questions were broad and resulted in a wide spectrum of analysis. If the questions were more focused, they would have addressed a more specific understanding of the relationships between social capital, emotional intelligence and attitudes towards third stream income.

## 9.6 Future study

A future study should look to replicate the study across universities and conduct a comparative analysis of the emotional intelligence-social capital nexus among academics who are engaged in third stream income generation. Future studies should also use existing

measurement tools or develop new measurement tools to collect data more accurately, as the researcher felt that the respondents could have provided very subjective responses and as the questionnaire was completed online, the researcher was not in control of the situational variables. Therefore, a more controlled and consistent environment to collect data may contribute to improving the reliability and validity of future studies. Future studies should also look at what the motivators are to participate in third stream income. Is it social benevolence or the attractiveness of earning additional income?

## **9.7 Summary**

The chapter provided conclusions derived from the study, which were supported by literature from the field. It addressed the conclusions to the specific research questions and provided recommendations for each of the research questions. A coaching framework was presented to contribute to academics' development by enhancing skills to improve contributions to developing positive attitudes third stream income.

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# APPENDICES

## Appendix 1



15 May 2018

Mr Deven Reddy (SN 882219468)  
Graduate School of Business and Leadership  
College of Law and Management Studies  
UKZN  
Westville Campus  
Email: [reddydeven@gmail.com](mailto:reddydeven@gmail.com)

Dear Mr Deven Reddy

### RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN), towards your postgraduate degree, provided Ethical clearance has been obtained. We note the title of your research project is:

*"Developing the emotional intelligence of academics to grow social capital for third stream income generation: A case study of UKZN."*

It is noted that you will be constituting your sample by handing out questionnaires, conducting interviews, and/or focus group discussions with academic and support staff at UKZN.

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using 'Microsoft Outlook' address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the Protection of Public Information Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

**MR SS MOKOENA  
REGISTRAR**

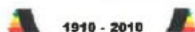
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#### Office of the Registrar

Postal Address: Private Bag X54001, Durban, South Africa






Telephone: +27 (0) 31 260 8005/2206 Facsimile: +27 (0) 31 260 7824/2204 Email: [registrar@ukzn.ac.za](mailto:registrar@ukzn.ac.za)

Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)



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## Appendix 2



13 July 2018

Mr Devendren Vengatas Reddy (882219468)  
Graduate School of Business & Leadership  
Westville Campus

Dear Mr Reddy,

**Protocol reference number: HSS/0503/018D**

**Project Title:** Developing the emotional intelligence of academics to grow social capital for third stream income generation: A case study of UKZN

### Approval Notification – Expedited Application

In response to your application received 21 May 2018, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

**PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



Dr Shamila Naidoo (Deputy Chair)

/ms

Cc Supervisor: Professor Cecile Gerwel Proches and Dr Thiruvani Moodley  
Cc Academic Leader Research: Professor Muhammad Hoque  
Cc School Administrator: Ms Zarina Bullyraj

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### Humanities & Social Sciences Research Ethics Committee

Professor Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: [ximbap@ukzn.ac.za](mailto:ximbap@ukzn.ac.za) / [snymnm@ukzn.ac.za](mailto:snymnm@ukzn.ac.za) / [mohunp@ukzn.ac.za](mailto:mohunp@ukzn.ac.za)

Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)



Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

Informed Consent Letter 3C

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**PhD Research Project**  
**Researcher: Devendren Vengatas Reddy (07965955840)**  
**Supervisor: Prof Cecile Gerwel Proches (0312608318)**  
**Supervisor: Dr Thiruvani Moodley (0312602763)**  
**Research Office: Ms P Ximba (0312603587)**

Dear Respondent,

I, Devendren Vengatas Reddy am a PhD in Leadership student, at the Graduate School of Business and Leadership, of the University of KwaZulu-Natal. You are invited to participate in a research project entitled: *“Developing the emotional intelligence of academics to grow social capital for third stream income generation: A case study of UKZN.”*

The aim of this study is to examine the role of emotional intelligence in developing social capital among UKZN academics for third stream income generation. Through your participation I hope to understand how emotional intelligence competencies in academics can contribute to building social capital for third stream income generation. The results of the interviews and focus groups are intended to contribute to the qualitative analysis of the research and inform the development of the questionnaire.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this interview. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about participating in the interviews or focus groups or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The interviews and focus groups should take about 45 minutes to an hour. I hope you will take the time to participate.

Sincerely

Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_

This page is to be retained by the participant.

*Appendix 4*

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**PhD Research Project**  
**Researcher: Devendren Vengatas Reddy (0796595584)**  
**Supervisor: Prof Cecile Gerwel Proches (0312608318)**  
**Supervisor: Dr Thiruvani Moodley (0312602763)**  
**Research Office: Ms P Ximba (0312603587)**

CONSENT

I..... (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby consent/do not consent to record the interview / focus group.

SIGNATURE OF PARTICIPANT

DATE

.....  
.....

This page is to be retained by the researcher.

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**PhD Research Project**

**Researcher: Devendren Vengatas Reddy (0796595584)**

**Supervisor: Prof Cecile Gerwel Proches (0312608318)**

**Supervisor: Dr Thiruvani Moodley (0312602763)**

**Research Office: Ms P Ximba (0312603587)**

**Developing the emotional intelligence of academics to grow social capital for third stream income generation: A case study of UKZN.**

**Interview Questions**

1. How long have you been an academic employee at UKZN and what designations have you occupied? Include in your answer position of chairs and adjunct roles.
2. What is your understanding of third stream income generation?
3. Is third stream income generation important for universities? Please elaborate.
4. In your tenure as an academic or leader at UKZN, have you been involved in or supported third stream income generation at UKZN? If so how? If not, why not?
5. What is your view on how UKZN is fairing in terms of third stream income generation?
6. What are the challenges pertaining to third stream income generation?
7. What are the benefits of third stream income generation?
8. What is your understanding of emotional intelligence?
9. Is emotional intelligence important for academics?
10. Is there a need to build emotional intelligence competencies to develop social capital for third stream income at UKZN? Please elaborate.
11. Do you feel that emotional intelligence is self-regulated or requires conscious effort to encourage collaboration among UKZN academics to produce third stream income? Please elaborate.
12. Is social capital among UKZN academics essential for expanding third stream income generation at the university? Please elaborate.
13. Would you participate in interventions to better understand the dynamics of emotional intelligence to develop entrepreneurial social capital for UKZN third stream income initiatives? Please elaborate. What would be your expectation?
14. Do you think emotional intelligence can be used as a tool to grow trust among UKZN academics to build social capital for third stream income generation? Please elaborate.

15. Is there an emotionally intelligent culture at UKZN which connects academics for third stream income activities? If yes describe? If not, what is the culture of creating networks among UKZN academics to engage in third stream income activities?
16. What support do entrepreneurial academics at UKZN receive to build emotional intelligence to grow institutional social capital for third stream income generation?
17. Explain one successful intervention you facilitated in your academic career at UKZN, drawing on emotional intelligence to facilitate social capital among UKZN academics which contributed to or attempted to contribute to third stream income generation?
18. Is there anything else that you would like to add?

## *Appendix 6*

### **UNIVERSITY OF KWAZULU-NATAL GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

#### **PhD Research Project**

**Researcher: Devendren Vengatas Reddy (0796595584)**

**Supervisor: Dr Cecile Gerwel Proches (0312608318)**

**Supervisor: Dr Thiruvani Moodley (0312602763)**

**Research Office: Ms P Ximba (0312603587)**

#### **Developing the emotional intelligence of academics to grow social capital for third stream income generation: A case study of UKZN**

##### **Focus group questions**

1. Do you think that emotional intelligence is sufficiently important to grow social capital among UKZN academics to be entrepreneurial and contribute to third stream income initiatives?
2. How does emotional intelligence influence your engagement with academic colleagues in building social capital for third stream income generation at UKZN?
3. What is your experience at UKZN in developing your emotional intelligence to contribute to social capital to promote third stream income generation with academic colleagues?
4. How do you view the current level of social capital among UKZN academics in efforts to raise third stream income?
5. What are the enablers and what are the challenges in creating social capital among UKZN academics?
6. How is social capital fostered among UKZN academics to collaborate with UKZN academic peers within departments and across departments to engage in third stream income activities?
7. Is emotionally intelligent behavior to build social capital among UKZN academics for third stream income initiatives encouraged and supported? If so how, if not, what can be done to support the growth of emotional intelligence?
8. What factors improve the development of emotional intelligence to grow entrepreneurial academics at UKZN to build social capital for third stream income generation?
9. Is there anything else that you would like to add?

## Appendix 7



23 August 2020

Mr Deven Vengatas Reddy (SN 882219468)  
Graduate School of Business and Leadership  
College of Law and Management Studies  
Westville Campus  
UKZN  
Email: [882219468@stu.ukzn.ac.za](mailto:882219468@stu.ukzn.ac.za)

Dear Mr Reddy

### RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN) towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

*"Exploring how the emotional intelligence - social capital nexus in academics impacts third stream income: A case study of UKZN."*

It is noted that you will be constituting your sample as follows:

- With a request for responses on the website. The questionnaire must be placed on the notice system <http://notices.ukzn.ac.za>. A copy of this letter (Gatekeeper's approval) must be simultaneously sent to ([govenderlog@ukzn.ac.za](mailto:govenderlog@ukzn.ac.za)) or ([ramkissoonb@ukzn.ac.za](mailto:ramkissoonb@ukzn.ac.za)).

Please ensure that the following appears on your questionnaire/attached to your notice:

- Ethical clearance approval letter;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using the 'Microsoft Outlook' address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the PAIA and POPI Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

Yours sincerely



**DR KE CLELAND: REGISTRAR (ACTING)**

---

#### Office of the Registrar

Postal Address: Private Bag X54001, Durban, South Africa

Telephone: +27 (0) 31 260 8005/2206 Email: [registrar@ukzn.ac.za](mailto:registrar@ukzn.ac.za)

Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)



Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

Informed Consent Letter 3C

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**PhD Research Project**  
**Researcher: Devendren Vengatas Reddy (07965955840)**  
**Supervisor: Prof Cecile Gerwel Proches (0312608318)**  
**Supervisor: Dr Thiruvani Moodley (0312602763)**  
**Research Office: Ms P Ximba (0312603587)**

Dear Respondent,

I, Devendren Vengatas Reddy am a PhD in Leadership student, at the Graduate School of Business and Leadership, of the University of KwaZulu-Natal. You are invited to participate in a research project entitled: *“Developing the emotional intelligence of academics to grow social capital for third stream income generation: A case study of UKZN.”*

The aim of this study is to examine the role of emotional intelligence in developing social capital among UKZN academics for third stream income generation. Through your participation I hope to understand how emotional intelligence competencies in academics can contribute to building social capital for third stream income generation. The results of the interviews and focus groups are intended to contribute to the qualitative analysis of the research and inform the development of the questionnaire.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this interview. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about participating in the interviews or focus groups or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The interviews and focus groups should take about 45 minutes to an hour. I hope you will take the time to participate.

Sincerely

Investigator's signature \_\_\_\_\_ Date \_\_\_\_\_

This page is to be retained by the participant

*Appendix 9*

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**PhD Research Project**  
**Researcher: Devendren Vengatas Reddy (0796595584)**  
**Supervisor: Prof Cecile Gerwel Proches (0312608318)**  
**Supervisor: Dr Thiruvani Moodley (0312602763)**  
**Research Office: Ms P Ximba (0312603587)**

CONSENT

I..... (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby consent/do not consent to record the interview / focus group.

SIGNATURE OF PARTICIPANT

DATE

.....  
.....

This page is to be retained by the researcher

## *Appendix 10*

**UNIVERSITY OF KWAZULU-NATAL**  
**GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**PhD (Leadership Studies) Research Project**

**Researcher: Devendren V Reddy (0796595584)**

**Supervisor: Dr Cecile Gerwel Proches (0312608318)**

**Supervisor: Dr Thiruvani Moodley (0312602763)**

**Research Office: Humanities and Social Science Ethics (HSSREC) (0312608690)**

Responses to the questionnaire will be kept confidential.

**Aim:** To determine how emotional intelligence can contribute to the development of new social capital value to benefit third stream income initiatives of academics at UKZN.

### **Purpose of the study**

The purpose of the questionnaire is to collect data on the effect that emotional intelligence has on developing social capital among academics at UKZN for third stream income.

There is an urgency to hasten post-apartheid reform in higher education and the impact has a ripple effect across South Africa (Murriss, 2016:276). Funding of South African universities is insufficient to promote knowledge creation, nurture quality graduates, foster sustainable economic development and engender essential transformation in teaching, learning and research (Badat, 2016:76).

Due to the decrease in state funding, universities must engage in third stream income through public-private partnerships in areas such as medical research, business incubation, technological commercialisation, continuing professional education and inter-college activities to improve the financial position of universities (Murphy et al., 2014:95). UKZN is positioned as a knowledge-intensive University promoting innovation to generate an array of intellectual property for commercialisation and for fostering mutually beneficial partnerships (UKZN Strategy, 2016:13). UKZN needs to consider creative strategies to generate third stream income and one method is to use academic entrepreneurship.

This study aims to examine the role of emotional intelligence in developing social capital among UKZN academics to increase third stream income generation. Highly skilled academics coming together create a reasoning and robust combination and can also bring together expertise in commercialisation, finance and operations to build a complete business unit (Cantu-Ortiz et al., 2017:548). Social capital refers to outcomes of human social engagement and connectedness in beneficial relationships with individuals and groups (Tzanakis, 2013:2). It is through socialisation that tacit information is transferred drawing on emotional intelligence to promote social capital. Emotional intelligence contributes to social intelligence which “improves one’s ability to analyse and synthesise emotions into information to manage social engagement” (Huvila, 2014:3).

## *Appendix 11*

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**PhD (Leadership Studies) Research Project**

**Researcher: Devendren V Reddy (0796595584)**

**Supervisor: Dr Cecile Gerwel Proches (0312608318)**

**Supervisor: Dr Thiruvani Moodley (0312602763)**

**Research Office: Humanities and Social Science Ethics (HSSREC) (0312608690)**

Dear Participant,

I, Devendren Vengatas Reddy am a PhD student in Leadership Studies at the Graduate School of Business and Leadership, University of KwaZulu-Natal. You are invited to participate in a research project entitled: *Exploring how the emotional intelligence-social capital nexus in academics impacts third stream income: A case study of UKZN*.

Through your participation, I hope to understand how emotional intelligence competencies in academics can contribute to building social capital for third stream income generation. The results from the questionnaire are intended to contribute to collecting data which will provide contemporary information to inform the study.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this questionnaire. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN. If you have any questions or concerns about participating in answering the questionnaire or about participating in this study, you may contact me or my supervisors at the numbers listed above.

The questionnaire should take about 10 to 15 minutes to answer. I hope you will take the time to participate.

Sincerely

Devendren. V Reddy

The definitions below are provided for quick and easy orientation. It is advisable to read definitions before completing the questionnaire.

## **1.14 Definitions**

**1.14.1 Academic Levels:** “A gradation from Lecturer, through Senior Lecturer, Associate Professor to Full Professor.” (University of KwaZulu-Natal [UKZN], 2019:2)

**1.14.2 Academic leadership** “Academic Leadership: Includes, inter alia, guiding, supporting and facilitating the research of other staff, postgraduate students, and, where appropriate, research teams and/or centres at appropriate levels up to and including international standing; Mentoring, guiding, supporting and facilitating staff in developing and delivering teaching programs of recognised excellence; and, contributing substantially to University governance and collegiality, at Discipline, School, College and University levels.” (UKZN, 2019:2)

**1.14.3 Change Management Structure** is the management of people in an organisation by activating organisational resources to promote change which is driven by leadership and also includes the development of interpersonal relations.(Cummings and Worley, 2009:179)

**1.14.4 Emotional Intelligence** is the combination of understanding ones emotions, having the ability to control ones emotions, ability to use emotions to motivate one’s self, recognise and acknowledge the emotions in others and use knowledge of emotions in one’s self and that of others and exert control over a situation for the benefit of all. (Goleman, 1996:43)

**1.14.5 Entrepreneurial creativity** is the ability of using organisational resources to find new opportunities in producing products, services or solutions to better satisfy specific market needs. (Della Corte and Del Gaudio, 2017:43)

**1.14.6 Entrepreneurial mindset** is the influence of personality traits, behavioural characteristics, cognitive skills and meta-cognitive skills on business-oriented entrepreneurship. (Pollard and Wilson, 2014:8)

**1.14.7 Entrepreneurial leadership assessments** are formal assessments which test the entrepreneurial competencies of individuals in leadership positions.

**1.14.8 Funding Opportunities** involve the identification of persons or organisations providing funding to match specific objectives based on the criteria of the deliverables.

**1.14.9 Human Process Intervention** understands how people and processes assist organisations in achieving their goals. The processes embedded in the disciplines of psychology and social psychology include leadership, communication, problem-solving and group decision-making. (Cummings and Worley, 2009:156)

**1.14.10 Innovation** means finding new ways to solve problems.

**1.14.11 Social Capital** “can be defined as resources embedded in a social structure which are accessed and/or mobilised in purposive actions”. (Lin, 1999:35)

**1.14.12 Third stream income** involves harnessing the capabilities of university resources to create, use and exploit knowledge opportunities to generate profits for the institution outside of the traditional academic deliverables. (Molas-Gallart *et al.*, 2002:3/4)

Place a tick ( ✓ ) in the appropriate block.

## Section 1: Biographical Information

### 1.1 Employment status

1.1.1	Permanent Academic <sup>1</sup> Staff	<input type="checkbox"/>
1.1.2	Fixed Term Contract Academic Staff	<input type="checkbox"/>
1.1.3	Visiting Academic	<input type="checkbox"/>
1.1.4	Other	<input type="checkbox"/>

1.1.5 If other, please specify \_\_\_\_\_

### 1.2 Gender

1.2.1	Male	<input type="checkbox"/>
1.2.2	Female	<input type="checkbox"/>

### 1.3 Race

1.3.1	African	<input type="checkbox"/>
1.3.2	Coloured	<input type="checkbox"/>
1.3.3	Indian	<input type="checkbox"/>
1.3.4	White	<input type="checkbox"/>
1.3.5	Other	<input type="checkbox"/>

1.3.6 If other please specify \_\_\_\_\_

### 1.4 Age

1.4.1	21 - 35	<input type="checkbox"/>
1.4.2	36 - 45	<input type="checkbox"/>
1.4.3	46 - 55	<input type="checkbox"/>
1.4.4	56 - 65	<input type="checkbox"/>
1.4.5	Older than 65	<input type="checkbox"/>

### 1.5 Years of Service

1.5.1	<5	<input type="checkbox"/>
1.5.2	5 - 9	<input type="checkbox"/>
1.5.3	10 -14	<input type="checkbox"/>
1.5.4	15 -19	<input type="checkbox"/>
1.5.5	20 +	<input type="checkbox"/>

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<sup>1</sup> University of KwaZulu-Natal (UKZN), 2019, Policy on academic appointments and academic promotion, UKZN.

## 1.6 Academic Leadership<sup>2</sup> Position

1.6.1	Executive Management	<input type="checkbox"/>
1.6.2	Senior Manager	<input type="checkbox"/>
1.6.3	Middle Manager	<input type="checkbox"/>
1.6.4	Dean and Head of School	<input type="checkbox"/>
1.6.5	Academic Leader: Discipline	<input type="checkbox"/>
1.6.6	Academic Leader: Teaching & Learning	<input type="checkbox"/>
1.6.7	Academic Leader: Research	<input type="checkbox"/>
1.6.8	Head of Department	<input type="checkbox"/>
1.6.9	Cluster Leader	<input type="checkbox"/>
1.6.10	Director of Centre/ Institute/Unit	<input type="checkbox"/>
1.6.11	Not in a leadership position	<input type="checkbox"/>

## 1.7 Academic Level

1.7.1	Full Professor	<input type="checkbox"/>
1.7.2	Associate Professor	<input type="checkbox"/>
1.7.3	Senior Lecturer	<input type="checkbox"/>
1.7.4	Lecturer	<input type="checkbox"/>
1.7.5	Other	<input type="checkbox"/>

1.7.6 If indicated other please specify \_\_\_\_\_

## 1.8 Professional Position

1.8.1	Executive Director Centre/ Institute	<input type="checkbox"/>
1.8.2	Director: Centre/ Institute/Unit	<input type="checkbox"/>
1.8.3	Manager: Centre/ Institute	<input type="checkbox"/>
1.8.4	Not Applicable	<input type="checkbox"/>

## 1.9 Highest Qualification Attained

1.9.1	Doctorate	<input type="checkbox"/>
1.9.2	Masters	<input type="checkbox"/>
1.9.3	Honours/Post Graduate Diploma	<input type="checkbox"/>
1.9.4	Bachelors	<input type="checkbox"/>

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<sup>2</sup> University of KwaZulu-Natal (UKZN), 2019, Policy on academic appointments and academic promotion,.

## 1.10. College

1.10.1	College of Humanities	<input type="checkbox"/>
1.10.2	College of Agriculture, Engineering & Science	<input type="checkbox"/>
1.10.3	College of Health Sciences	<input type="checkbox"/>
1.10.4	College of Law and Management Studies	<input type="checkbox"/>
1.10.5	Other	<input type="checkbox"/>

## 1.11 Schools

### 1.11.1 College of Humanities (School)

1.11.1.1	School of Applied Human Sciences	<input type="checkbox"/>
1.11.1.2	School of Arts	<input type="checkbox"/>
1.11.1.3	School of Built Environment and Development Studies	<input type="checkbox"/>
1.11.1.4	School of Education	<input type="checkbox"/>
1.11.1.5	School of Religion, Philosophy and Classics	<input type="checkbox"/>
1.11.1.6	School of Social Sciences	<input type="checkbox"/>

### 1.11.2 College of Agriculture, Engineering & Science (School)

1.11.2.1	School of Engineering	<input type="checkbox"/>
1.11.2.2	School of Agricultural, Earth and Environmental Sciences	<input type="checkbox"/>
1.11.2.3	School of Chemistry and Physics	<input type="checkbox"/>
1.11.2.4	School of Life Sciences	<input type="checkbox"/>
1.11.2.5	School Mathematics, Statistics and Computer Science	<input type="checkbox"/>

### 1.11.3 College of Health Sciences (School)

1.11.3.1	School of Clinical Medicine	<input type="checkbox"/>
1.11.3.2	School of Laboratory Medicine & Medical Sciences	<input type="checkbox"/>
1.11.3.3	School of Health Sciences	<input type="checkbox"/>
1.11.3.4	School of Nursing & Public Health	<input type="checkbox"/>

### 1.11.4 College of Law and Management Studies (School)

1.11.4.1	Graduate School of Business and Leadership	<input type="checkbox"/>
1.11.4.2	School of Accounting, Economics and Finance	<input type="checkbox"/>
1.11.4.3	School of Law	<input type="checkbox"/>
1.11.4.4	School of Management, IT and Governance	<input type="checkbox"/>

**Section 2: Research questionnaire for UKZN academics on the influence of emotional intelligence and social capital<sup>3</sup> on third stream income<sup>4</sup>**

Please answer all of the statements below using the Likert scale. Only select one response on the Likert scale for each of the questions below.

**Likert scale values indicated below:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>

**Please select the appropriate block**

**2.1.1** I have participated in third stream income initiatives while employed at a Higher Education Institution.

Yes  No

**2.1.2** Please indicate which of the following types of third stream income you have participated in at a Higher Education Institution. Indicate all that you have participated in.

2.1.2.1	Research grants	<input type="checkbox"/>
2.1.2.2	Tenders	<input type="checkbox"/>
2.1.2.3	Unsolicited Proposals	<input type="checkbox"/>
2.1.2.4	Technology-Funded Grants	<input type="checkbox"/>
2.1.2.5	International Collaboration Grants	<input type="checkbox"/>
2.1.2.6	Research Publications	<input type="checkbox"/>
2.1.2.7	Spin Off Company Investment	<input type="checkbox"/>
2.1.2.8	Donations	<input type="checkbox"/>
2.1.2.9	Funding for Post-Graduate Bursaries	<input type="checkbox"/>
2.1.2.10	Other	<input type="checkbox"/>
2.1.2.11	I have not yet participated in third stream income activities	<input type="checkbox"/>

**2.1.2.11** If you selected 'other' please specify \_\_\_\_\_

**2.1.3** I have not participated in third stream income for the following reasons:

\_\_\_\_\_

<sup>3</sup> LIN, N. 1999. Building a network theory of social capital. *Connections*, 22, 28-51.

<sup>4</sup> MOLAS-GALLART, J., SALTER, A., PATEL, P., SCOTT, A. & DURAN, X. 2002. Measuring third stream activities. *Final report to the Russell Group of Universities*. Brighton: SPRU, University of Sussex.

2.1.3.1	Lack of time	<input type="checkbox"/>
2.1.3.2	Have not identified opportunities	<input type="checkbox"/>
2.1.3.3	Concentrating on my career as an academic	<input type="checkbox"/>
2.1.3.4	Insufficient proposal-writing skills	<input type="checkbox"/>
2.1.3.5	Risk aversion	<input type="checkbox"/>
2.1.3.6	Management does not allow it	<input type="checkbox"/>
2.1.3.7	Not part of my key performance areas (KPAs)	<input type="checkbox"/>
2.1.3.8	Other	<input type="checkbox"/>
2.1.3.9	Not applicable	<input type="checkbox"/>

2.1.3.9 If your response was 'other', please state the reason \_\_\_\_\_

2.1.3.10 If you have not participated in third stream income at a Higher Education Institution, please state the reason.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### 2.1.4 Human Process Intervention<sup>5</sup>

		<b>1. Strongly Disagree</b>	<b>2. Disagree</b>	<b>3. Neutral</b>	<b>4. Agree</b>	<b>5. Strongly Agree</b>
2.1.4.1	I have collaborated with other UKZN academics in third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.2	I mostly collaborate with academics outside of UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.3	I mostly collaborate with academics in my College/ School/ Discipline/Unit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>5</sup> CUMMINGS, T. & WORLEY, C. 2009. Organization Development and Change, 9-th ed. *South-Western Cengage learning*.

2.1.4.4	I believe that I possess valuable expertise and networks that can benefit third stream income initiatives at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.5	I believe in sharing my expertise and networks with UKZN academics for the purpose of third stream income generation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.6	The culture among UKZN academic staff is conducive for collaboration on third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.7	I rate trust highly when collaborating with UKZN academic staff on third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.8	I believe that I can trust academic peers at UKZN when working on collaborative projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.9	I live by the principles of emotional intelligence when engaging with academic peers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.10	I understand what is meant by emotional intelligence <sup>6</sup> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.11	I believe that my line manager understands third stream income activities come with increased responsibility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.12	I feel it is important to use specialist knowledge to leverage power when collaborating with academic peers on third stream activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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<sup>6</sup> GOLEMAN, D. 1996. *Emotional intelligence: Why it can matter more than IQ*, [ London]: Bloomsbury Publishing.

2.1.4.13	I believe it is important to develop an entrepreneurial mindset <sup>7</sup> in the academic staff at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.14	I believe it is important to conduct emotional intelligence development for staff interested in pursuing third stream income initiatives at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.4.15	Team building is important to orientate UKZN academic staff prior to the start of all third stream income initiatives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 2.1.5 Change Management Structure<sup>8</sup>

		<b>1. Strongly Disagree</b>	<b>2. Disagree</b>	<b>3. Neutral</b>	<b>4. Agree</b>	<b>5. Strongly Agree</b>
2.1.5.1	I believe that I can deal with interpersonal dynamics existing between academics at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.2	I believe that diversity among academic peers adds new perspectives to collaborative third stream income initiatives at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.3	I believe that UKZN academic staff engage in open dialogue to promote third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>7</sup> POLLARD, V. & WILSON, E. 2014. The “Entrepreneurial Mindset” in creative and performing arts higher education in Australia. *Artivate*, 3, 3-22.

<sup>8</sup> CUMMINGS, T. & WORLEY, C. 2009. *Organization Development and Change*, 9-th ed. [Mason, Ohio, USA]: South-Western Cengage learning.

2.1.5.4	I believe that my line manager has effective interpersonal skills to promote collaboration among academic staff at UKZN to promote third stream income.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.5	I find it easy to engage with my line manager at UKZN on third stream income opportunities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.6	I have an understanding of entrepreneurial personality traits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.7	I find that the UKZN's academic leadership creates opportunities for academic staff to build entrepreneurial personality traits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.8	There is a high level of third stream income collaboration among academic staff at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.9	Academic leadership at UKZN creates opportunities to motivate academic staff to be entrepreneurs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.10	UKZN promotes a culture of innovation and entrepreneurship among academic staff members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.11	I spend most of my time on preparation for lecturing and teaching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.12	I am most concerned about developing my profile as a researcher (e.g., NRF rating, h-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	factor, attracting citations).					
2.1.5.13	I do not believe that the roles and responsibilities of an academic should include bringing in third stream income.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.14	I believe that third stream income should be the responsibility of specific units set up to perform this function, for example, <i>InQubate</i> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.15	I do not have the networks or skills to enable me to start engaging in third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.16	I feel that I am not ready to engage in third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.17	I believe that academics need to engage in third stream income activities in the current economic climate, considering the challenges facing universities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.18	The workload at UKZN is too cumbersome to engage in third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.19	It is difficult to find third stream income opportunities in South Africa.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.20	I find it easy to engage with academic staff from different disciplines to explore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	new third stream income opportunities.					
2.1.5.21	I believe that academic leadership at UKZN promotes a favourable culture to grow third stream income.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.22	I believe that the academic leadership at UKZN is willing to listen to proposed entrepreneurial opportunities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.23	I feel that candidates applying for academic leadership positions at UKZN should undergo an entrepreneurial leadership assessment as part of the academic appointment and promotion processes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.24	I believe that taking on third stream income responsibilities will be stressful for academics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.25	I have the ability to manage stress caused by taking on third stream income activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.26	I have the confidence to engage with external stakeholders on large funding opportunities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.27	There are sufficient capacity building interventions to support academic staff who want to engage in entrepreneurship at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.1.5.28	Academic staff at UKZN should be continuously developed in the field of entrepreneurial creativity <sup>9</sup> and innovation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1.5.29	I find it easy to accept change in respect of new thinking and new ideas to raise third stream income.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.1.5.30 Would you like to provide any further information?

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### Section 3

The questions below are based on the Emotional Intelligence domains and associated competencies proposed by Daniel Goleman, Richard Boyatzis and Annie McKee (Goleman, Boyatzis and McKee, 2002a:47/8)

Use the Likert scale below and choose only one response which most appropriately answers each of the questions. Please answer all statements. Place a tick ( ✓ ) in the appropriate block.

		<b>1. Strongly Disagree</b>	<b>2. Disagree</b>	<b>3. Neutral</b>	<b>4. Agree</b>	<b>5. Strongly Agree</b>
3.1	I understand my emotional state at all times.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	I am always aware of my limitations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>9</sup> DELLA CORTE, V. & DEL GAUDIO, G. 2017. Entrepreneurial creativity: sources, processes and implications. *International Journal of Business and Management*, 12, 33-48.

3.3	I am self-confident.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	I have the ability to control my emotions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	I am open to sharing information at all times.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	I am always adaptable to change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	I always strive for standards of excellence in my work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	I am always cautious when deciding to participate in new activities, such as third stream income activities at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9	I am a positive thinker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	I am always empathetic to my colleagues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	I am always capable of adapting to changes in the organisation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.12	I am always service-oriented towards UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.13	I have the skills to be persuasive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.14	I am a good mentor to my colleagues.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.15	I consider myself to be a change agent in my work environment at UKZN.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.16	I possess good conflict management skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.17	I am good at creating relations for entrepreneurial ventures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.18	I am a team player.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.19 Would you like to provide any further information?

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Thank you very much for taking the time to complete this questionnaire.

Your responses are valued.

## Appendix 12



08 March 2023

Devendren Vengatas Reddy (882219468)  
Grad School Of Bus & Leadership  
Westville Campus

Dear DV Reddy,

**Protocol reference number:** HSSREC/00002173/2020

**Project title:** Exploring how the emotional intelligence - social capital nexus in academics impacts third stream income: A case study of UKZN.

**Amended title:** Exploring how the emotional intelligence-social capital nexus in academics impacts third stream income: A case study of University of KwaZulu-Natal.

**Degree:** PhD

### Approval Notification – Amendment Application

This letter serves to notify you that your application and request for an amendment received on 17 February 2023 has now been approved as follows:

- Change in title

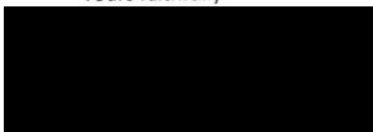
Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form; Title of the Project, Location of the Study must be reviewed and approved through an amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

**PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Best wishes for the successful completion of your research protocol.

Yours faithfully








.....  
Professor Dipane Hlalele (Chair)

/dd

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Humanities & Social Sciences Research Ethics Committee  
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building  
Postal Address: Private Bag X54001, Durban 4000  
Tel: +27 31 260 8350 / 4557 / 3587

Website: <http://research.ukzn.ac.za/Research-Ethics/>

Founding Campuses:  Edgewood  Howard College  Medical School  Pietermaritzburg  Westville

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### Appendix 13

#### Colleges and Schools at UKZN

Number	College	School
1	<b>College of Humanities</b>	School of Applied Human Sciences School of Arts School of Built Environment and Development Studies School of Education School of Religion, Philosophy and Classics School of Social Science
2.	<b>College of Agriculture, Engineering and Science</b>	School of Engineering School of Agriculture, Earth, and Environmental Sciences School of Chemistry and Physics School of Life Sciences School of Mathematics, Statistics and Computer Science
3.	<b>College of Health Sciences</b>	School of Clinical Medicine School of Laboratory Medicine and Medical Sciences School of Health Sciences School of Nursing and Public Health
4.	<b>College of Law and Management Studies</b>	Graduate School of Business and Leadership School of Accounting, Economics and Finance School of Law School of Management, IT and Governance

*Appendix 14*

Biographical Data

**Length of service of the respondents**

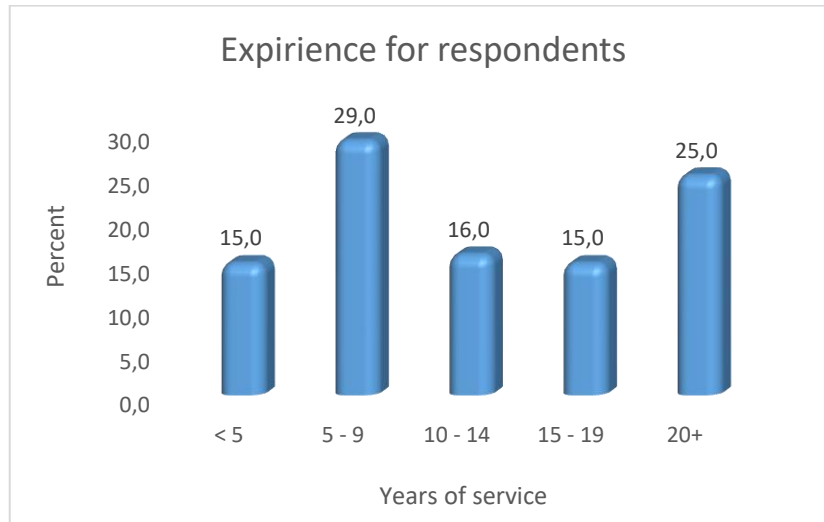


Figure 14. 1 Length of service of the respondents

Graph 15.1 above shows that 85% of the respondents had been in employment for more than 5 years ( $p = 0.072$ ). These respondents have been employed at UKZN for a reasonable period to have sufficient experience at UKZN to provide informed opinions based on their understanding and experience in response to the questionnaire which was used. Moreover, a proportion has experience within 5 to 9 years and 20 plus years work of experience.

Table: 14.1 Senior management and academic leadership positions of the respondents

	Frequency	Percent
Senior Manager	2	2.0
Dean and Head of School	2	2.0
Academic Leader: Discipline	12	12.0
Academic Leader: Research	5	5.0
Head of Department	6	6.0
Cluster Leader	2	2.0
Director of Centre/ Institute/Unit	8	8.0
Not in a leadership position	63	63.0
Total	100	100.0

Approximately two-thirds of the respondents 63.0% did not hold a leadership position but were part of the academic staff. The three other significant groups were academic leadership who made up 12%, directors made up 8% and heads of department made up 6%. This makes a good distribution of academics which is greater than 63% as some of the leadership are in academic positions and 37% of the respondents hold leadership positions.

Table: 14.2 Academic levels of the respondents

	Frequency	Percent
Full Professor	20	20.0
Associate Professor	22	22.0
Senior Lecturer	24	24.0
Lecturer	32	32.0
Other	2	2.0
Total	100	100.0

There were similar numbers of the respondents from all categories with a significantly smaller proportion from the category other. It is evident from the above table that 42% were either full professors or associate professors, with 24% being senior lecturers and 32% at a lecturer level. This is an indication that 64% of the respondents held senior academic positions.

Table: 14.3 Professional positions of the respondents

	Frequency	Percent
Director: Centre/ Institute/Unit	8	8.0
Manager: Centre/ Institute	4	4.0
Not Applicable	88	88.0
Total	100	100.0

Only 12% of the respondents held such positions, whilst the complement indicates that a huge proportion of the respondents are not directors and managers as anticipated.

Table 14.4 Number of the respondents per education level

	Frequency	Percent
Doctorate	84	84.0
Masters	16	16.0
Total	100	100.0

All the respondents had post-graduate degrees, with significantly more having PhDs 84%. This indicates that a large proportion of the respondents have a doctorate qualification 84% and all the respondents had at least master's qualification. This indicates that the responses gathered are from respondents that are academically inclined and are likely to pursue an academic career path. The responses are from respondents that have academic qualifications showing that they are academically inclined which would allow the potential career pathing to stay in the academic sector if they so desire. This also indicates that UKZN has qualified staff and good to change the education contribution to South Africa.

### College the respondents belonged to

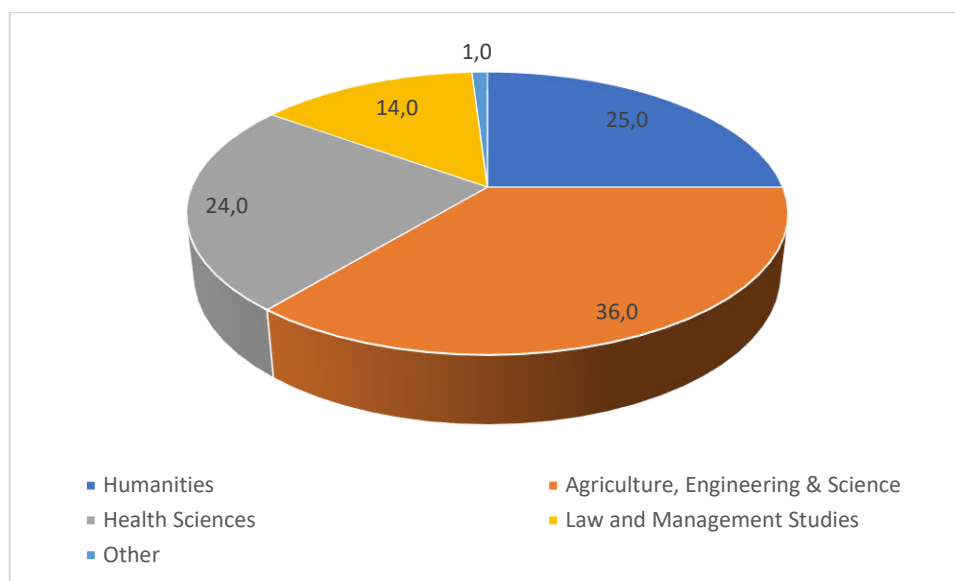


Figure 14.2 Pie diagram showing participant distribution according to Colleges at UKZN

The pie diagram 15.2 above depicts the academic structure of UKZN comprising four Colleges (College of Humanities, College of Agriculture, Engineering & Science, College of Health Sciences and College of Law and Management Studies). Most respondents were from the College of Agriculture, Engineering and Science 36.0%, with similar numbers from the College of Humanities 25%, the College of Health Sciences 24% and the College of Law and Management Studies accounted for 14%. This was a fair distribution from the total of four colleges at UKZN which provided academics insight from all colleges constituted under the academic structure of UKZN.

Table 14.5 List of schools under colleges to which the respondents belonged

	Frequency	Percent
Accounting, Economics and Finance	6	6.1
Agricultural, Earth and Environmental Sciences	10	10.2
Applied Human Sciences	4	4.1

Arts	8	8.2
Built Environment and Development Studies	2	2.0
Chemistry and Physics	9	9.2
Clinical Medicine	6	6.1
Education	8	8.2
Engineering	8	8.2
Graduate Business and Leadership	1	1.0
Health Sciences	12	12.2
Laboratory Medicine & Medical Sciences	2	2.0
Law	1	1.0
Life Sciences	5	5.1
Management, IT and Governance	5	5.1
Mathematics, Statistics and Computer Science	3	3.1
Nursing & Public Health	4	4.1
Religion, Philosophy and Classics	3	3.1
Social Sciences	1	1.0
Total	98	100.0

The above table depicts the percentage number of the respondents from the different schools at UKZN. UKZN has a total of 19 Schools under the college model. The above table shows that respondents from all 19 schools at UKZN participated in the online survey. The largest

representations were from Health Sciences and Agricultural, Earth and Environmental Sciences ( $p = 0.004$ ). The schools that had more than 10% of the respondents included the School of Health Sciences, (12.2%) and the School of Agricultural, Earth and Environmental Sciences (10.2%). The schools that had between 5% and 9% participation included Accounting, Economics and Finance, (6.1%), Arts (8.2%), Chemistry and Physics (9.2%), Clinical Medicine (6.1%), Education (8.2%), Engineering (8.2%), Life Sciences (5.1%), Management, IT and Governance (5.1%) and all other schools had a percentage of the respondents between 1% and 4%. The table shows a fair representation of respondents' views from all 19 Schools at UKZN with more than 50% of Schools at UKZN having 5% or greater participation in the online questionnaire.

## 14.2 Correlation CSV

### 1. Correlation



Correlation.csv

### 2. R code

```
NewData2 <- read.csv("~/NewData2.csv")
names(NewData2)

# Check the responses

Data1 <- NewData2[,c(14,42:85,87:104)]

corr_dat<- as.data.frame(cor(Data1[,-1]))
write.csv(corr_dat,"Correlation.csv")
Y<-Data1[,1]
X<-Data1[,-c(1)]

det(cor(X))

library(psych)
KMO(r=cor(X))
# According to Kaiser's (1974) guidelines,
# a suggested cutoff for determining the factorability of the sample data is
#  $KMO \geq 60$ . The total KMO is 0.64, indicating that, based on this test, we can
# Probably conduct a factor analysis.

cortest.bartlett(X)
# Small values ( $2.612925e-134 < 0.05$ ) of
# The significance level indicate that a
```

```

# Factor analysis may be useful with our data.
library(ltm)
cronbach.alpha(X)

library(ggplot2)
fakitfree <- fa(Data1,nfactors = ncol(X), rotate = "none")
n_factors <- length(fakitfree$e.values)
scree <- data.frame(
  Factor_n = as.factor(1:n_factors),
  Eigenvalue = fakitfree$e.values)
ggplot(scree, aes(x = Factor_n, y = Eigenvalue, group = 1)) +
  geom_point() + geom_line() +
  xlab("Number of factors") +
  ylab("Initial eigenvalue") +
  labs( title = "Scree Plot",
        subtitle = "(Based on the unreduced correlation matrix)")

parallel <- fa.parallel(X)

library(psych)
library(corrplot)
library("psych")
library(ggplot2)
library(car)
fa.none <- fa(r=X,
             nfactors = 6,
             # covar = FALSE, SMC = TRUE,
             fm="minres", # type of factor analysis we want to use ("pa" is principal
axis factoring)
             max.iter=100, # (50 is the default, but we have changed it to 100
             rotate="varimax") # no rotation
print(fa.none)
plot(fa.none)

factanal.none <- factanal(X, factors=6, scores = c("regression"),
                        rotation = "varimax")

fa.diagram(fa.none)
head(fa.none.var$scores)
regdata <- cbind(Data1["S1.10"], factanal.none$scores)

#Splitting the data 70:30
#Random number generator, set seed.
set.seed(100)
indices= sample(1:nrow(regdata), 0.7*nrow(regdata))
train=regdata[indices,]
test = regdata[-indices,]

```

```
model.fa.score = lm(S1.10~., train)
summary(model.fa.score)
```

```
vif(model.fa.score)
```

```
#Model Performance metrics:
```

```
pred_test <- predict(model.fa.score, newdata = test, type = "response")
```

```
pred_test
```

```
test$S1.10_Predicted <- pred_test
```

```
head(test[c("S1.10", "S1.10_Predicted")], 10)
```

### 3. Data for Structural Equation Model (7.16)



Deven - Output -  
SEM 1 (2).xlsx

## Appendix 15



03 December 2020

Mr Devendren Vengatas Reddy (882219468)  
Grad School Of Bus & Leadership  
Westville Campus

Dear Mr Reddy,

**Protocol reference number:** HSSREC/00002173/2020  
**Project title:** Exploring how the emotional intelligence - social capital nexus in academics impacts third stream income: A case study of UKZN.  
**Degree:** PhD

### Approval Notification – Expedited Application

This letter serves to notify you that your application received on 23 October 2020 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL** on the following condition:

**Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.**

This approval is valid until 03 December 2021.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)

/dd

### Humanities and Social Sciences Research Ethics Committee

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Telephone: +27 (0)31 260 8350/4557/3587 Email: [hssrec@ukzn.ac.za](mailto:hssrec@ukzn.ac.za) Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

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