CONSTRUCTING THE CONTRACEPTIVE DECISION-MAKING PROCESS: A FRAMEWORK FOR FAMILY PLANNING PROGRAMS IN SUB-SAHARAN AFRICA. A ZAMBIAN CASE STUDY.

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet the requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

LUCY NYUNDO

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Thesis outputs

Book Chapter in Press

Nyundo, L., Eagle, L., Whittaker, M. & Low, D.R. (2020) "Comparing Social Marketing Strategies in the Developing World: A Case from Zambia". In Hay, R., Eagle, L. & Bhati, A. (eds). (2020). *Broadening Cultural Horizons in Social Marketing – Comparing Case Studies from Asia-Pacific*. Springer: Singapore.

Papers Published as Part of Refereed Conference Proceedings:

Nyundo, L., Eagle, L., Whittaker, M., Low, D. (2019). "Exploring the Influence of Pre-Marriage Counselling on Fertility Decisions in Lusaka, Zambia". In *Proceedings of the World Social Marketing Conference*, Edinburgh, June 2019.

Nyundo, L., Eagle, L., Whittaker, M., Low, D. & Mwansa, D. (2018). "The use of cannabis seeds as a natural contraceptive: A case of Zambia". In *Proceedings of the 2018 International Social Marketing Conference*, pp. 197 – 202. Singapore, July.

Refereed Conference Presentations

Nyundo, L., Eagle, L., Whittaker, M., & Low, D. (2019). "Exploring the Influence of Pre-Marriage Counselling on Fertility Decisions in Lusaka, Zambia". Presented virtually at the World Social Marketing Conference, Edinburgh, June 2019. Paper appeared in conference proceedings.

Nyundo, L., Eagle, L., Whittaker, M., Low, D. & Mwansa, D. (2018). "Exploring the Influence of Pre-Marriage Counselling on Fertility Decisions in Lusaka, Zambia". Presented at the Graduate Women Zambia Inaugural Conference, Lusaka, October.

Nyundo, L., Eagle, L., Whittaker, M., Low, D. & Mwansa, D. (2018). "The use of cannabis seeds as a natural contraceptive: A case of Zambia". Presented at the 2018 International Social Marketing Conference, Singapore. Paper appeared in conference proceedings.

Other

Nyundo, L., Eagle, L., Whittaker, M., Low, D. & Mwansa, D. (2018). "Constructing the private family planning decision-making process". Presented at the monthly Family Planning Technical Working group meeting, PATH Offices, Lusaka, Zambia.

Acknowledgments

In Africa, we say it takes a village to raise a child. I say it takes an amazing support system to produce a PhD thesis. This is because my PhD journey has been a collective effort of different people and institutions, without whom this thesis would not have been completed. Therefore, I would like to acknowledge and appreciate the exceptional support given to me by the following people and organisations or institutions:

1) My supervisory team of Lynne, Maxine and David, the giants on whose shoulders I have had to stand, for mentoring me academically and providing psychological, emotional and material support throughout the journey. What a privilege it was working with this amazing and accomplished team of experts.
2) Daniel Lindsay-College of Public Health, Medical & Veterinary Sciences, for assisting me with the statistical analysis and assuring me that I was on the right path.
3) Professor Dickson Mwansa (co-founder of the Zambia Open University) for complementing the core JCU supervisory team from June 2017 to March 2020. He was also instrumental in the Co-Tutelle Agreement between James Cook University and Zambia Open University which enabled me to obtain a full tuition waiver, without which I would not have commenced my studies.
4) The Country Director (Dr Christopher Mazimba) of the Scale Up Family Planning in Zambia Project for providing the insights and platform to disseminate information about my project.
5) The Zambia Ministry of Health for allowing me to attend the Family Planning Technical working group meetings, workshops and conferences and for introducing me to their partners in Family Planning Program (Society for Family Planning Health and the Planned Parenthood Association of Zambia). Special thanks to Dr Angel Mwiche and Ms Dynes Kaluba.
6) The Planned Parenthood Association of Zambia for allowing me to collect data from their clinic and outreach sites.
7) My research assistants, Janet Ngosa and Julia Mundia, who took on the data collection not just as a job but also as their own project.
8) My cohort mates and friends Dr Rachel Hay and her wonderful family, George Bopi-Kerepa, Chonlada Pharino and Karmen Luzar for sharing their own experiences, offering a shoulder to lean on and positively challenging my thinking and mind-set.

9) My dear husband and friend (Rodrick), for his sacrifice, support, encouragement and for gracefully bearing the ridicule for allowing me to go away and study abroad. He took time to read my drafts and explained the project as his, which was so amazing. He gave me the reason to go on even when I felt like giving up. Always reminding and pushing me saying, “Let’s do this – our PhD”. Indeed, it is our PhD!
10) My children are the reason why I kept pushing myself so I could finish and have time for them. Nkumbu, my sweet daughter, so innocent but thoughtful – she would make the video calls short and always reminded me to get back to my books. My fragile son, Mutende, it was tough for him to stay without me but he still smiled and put up a brave face.
11) My Dad, always supportive and providing constant counselling to Rodrick and me, saying, “You have to do away with certain tastes for a while and enjoy later”. He offered accommodation and food for my kids and always picked them up from school. We knew we could count on him.
12) My siblings (team Catherine!) for believing in me at the same time as teasing me and for babysitting the “handful” twins. I salute them all.
13) Uncle Godfrey Chita and cousin Muleba (fondly known as Big Mama). I am sure mum is smiling down on them for doing their best to be there for me just as she would have.

Statement of Contributions by Others

Nature of Assistance	Contribution	Names, Titles and Affiliation of Co-Contributors
Supervision	Primary Supervisor Secondary-Supervisors	Professor Lynne Eagle Professor Maxine Whittaker Professor David R Low
Financial Support	College of Business, Law & Governance College of Public Health, Medical and Veterinary Sciences	Professor Lynne Eagle Professor Maxine Whittaker James Cook University tuition waiver
Data Collection	In-charge at Health Facilities Planned Parent Hood Association of Zambia Market and Station Chairpersons/supervisors	Chilenge Hospital UNHCR Health Post Medcross Hospital Bauleni Clinic PPAZ Clinic
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Professional Thesis Editing	EduPreneur Services International	Dr John Cokley
Other	Scale up Family Planning in Zambia project Director Ministry of Health and Family Planning Technical Working Group	Dr Mazimba Dr A. Mwiche Ms D Kaluba

Dedication

Catherine N'goma Chita Nyundo

25/12/1948 to 28/05/2017

I dedicate this thesis to my late mother, because she is an example of a woman who defied the social context of her generation about adolescent pregnancy. Although she got pregnant while at school, she went back after giving birth and finished her education. She trained as a teacher and had a successful teaching career, retiring as a school manager. She was also entrepreneurial and managed to raise eight children, who were all well-spaced (three to five years birth spacing).

Mum, your departure not only broke my heart but made me emotionally mute for a good number of months. The first phase of my PhD journey was tough but was the beginning of my healing process. I still wish for one more day with you and imagine what this would feel like if you were to see me at the finishing line of this journey. Alas! The Almighty saw it fit for you not to be here. Tears will never stop rolling down just by thinking about you. The precious memories of you keep me going and will forever be cherished. Your fighting spirit and selfless nature guided me through this journey knowing that it was bigger than me. Your coaching about education, hard work, women empowerment, commitment and discipline has seen me through.

Motivation for the Selected Topic

As expected of every socially and culturally abiding couple in a Zambian society, my fiancé and I underwent pre-marriage counselling (pre-MC). We did both traditional and religious pre-MC. One of the topics that I found interesting during the religious pre-MC was family planning. On the day this topic was delivered, a nurse (a congregant at the church where my fiancé was a congregant) was asked to open the session by talking to us about the different contraceptive methods. Our usual marriage counsellors handled the rest of the session. The interesting thing about the session was that the two counsellors had different views about when to have the first child.

One of them discouraged us from having a child immediately after getting married – urging us to take time to settle down and get to know each other. The other argued that using contraceptives immediately after getting married was not something she would encourage because we first needed to 'test' or 'prove' our fertility. Although the two had divergent but valid points, they gave us consistent advice on the need to discuss and agree on the number of children to have from the onset.

We left the session knowing we needed to discuss the family size decision, which we had never talked about previously. I wanted two children my fiancé wanted four. We agreed to meet each other halfway and we settled for three. However, we never discussed when to start having children or what method to use. As nature would have it, a month after we got married, I got pregnant! And it was twins! Two months after I delivered, my elder sister and one of my traditional marriage counsellors asked me if I had seen my menses. Upon confirming that I had, they advised me to immediately go to the hospital to get a contraceptive because it seemed I was 'very fertile'. I went back to the private hospital where I had delivered my kids and I was told to try the two months' injection. I had a demanding job so after the second dose I asked for something long term. After a very short chat with one of the nurses I settled for the five years' implant (Jadelle®).

A few years later when I was searching for a suitable project for my PhD, it stuck me just how ignorant I was about my reproductive health. I thought to myself; *I am educated, independent and I can freely discuss my reproductive life with my spouse yet I am so ignorant about contraceptives.* I wondered what is it like for women and young girls out there who may not be as fortunate as I was. Thus, my personal experience and reflection were the motivation for my PhD project on family planning.

Abstract

Societies encounter various social (e.g. corruption, drug abuse, domestic violence), environmental (e.g. global warming, poor sanitation) and health (e.g. obesity, sexually transmitted disease) problems. These social problems are multifaceted requiring a multidisciplinary approach to address them. The use of marketing concepts, theories, techniques and those of other disciplines (e.g. sociology, psychology) to influence voluntary behaviour change for the benefit of the individual and society – Social Marketing (SM); has been and continues to be useful in addressing social problems. From its origins to date, SM has been predominantly applied to public health problems with multiple projects focused on family planning, especially in Sub-Saharan Africa.

There is a plethora of studies on family planning across the world. Among other issues, these studies have identified the factors and actors that affect fertility decisions (Bakilana & Hasan, 2016; Balogun et al., 2016; Ghannam, 2005; Lowe & Moore, 2014). Also identified are the factors that affect uptake and discontinuation of modern contraceptives (Blackstone, Nwaozuru, & Iwelunmor, 2017); and the socioeconomic impact of taking the population replacement fertility rate of 2.1 births per woman (Gietel-Basten & Scherbow, 2019; United Nations, 2000).

Fertility decision-making is one aspect of family planning research that has been well researched. However, to date there is no theory or framework that explains the fertility decision-making process. Many studies stress the importance of understanding the decision-making process by establishing the factors that affect the process, as a basis for developing target specific family planning programs.

Fertility decisions are private, personal and complex but public policy has an important role to play in fertility and population growth rate (Merrick, 2002). This is because fertility and population growth rate are important determinants of social and economic development. For example, Australia is in danger of entering an era of declining productive human labour due to its low fertility rate of 1.7 births per woman (Wright, 2019). Conversely, Zambia faces the risk of unsustainable population growth due to its high fertility rate of 4.7 births per woman (Zambia Statistics Agency, Ministry of Health Zambia and ICF, 2019). Therefore, family planning remains an unfinished global agenda for the 21st century because of continued presence of some high fertility regions like Sub-Saharan Africa (Cleland et al., 2006; Roser, 2020; United Nations Department of Economic and Social Affairs, 2020).

The Sub-Saharan region is projected to significantly contribute to the global population growth rate by 2050 (United Nations Department of Economic and Social Affairs,

2020; United States Agency for International Development, 2020). Furthermore, this region's slow fertility transition (i.e. the shift from high to low fertility rate) is yet to be fully understood. Some scholars argue that it is different from other developing and high fertility regions like Latin America and Eastern Asia (Caldwell, Orubuloye, & Caldwell, 1992) while others are of the view that it is simply exhibiting a mix of transition characteristics (Bongaarts & Casterline, 2012; Schoumaker, 2019). Hence the revitalisation of interest and investment in family planning through the Family Planning 2020 (FP2020) initiative (Ahmed et al., 2019).

Nonetheless, there is consensus that the low uptake of modern contraceptives in Sub-Saharan Africa is caused by numerous and divergent barriers (Tucker, 1986; Wulifan, Brenner, Jahn, & De Allegri, 2016). These barriers include poor access to quality family planning (FP) services, contraceptive shortages, remoteness of facilities, fear of side effects, sociocultural norms and social network influence (Blackstone, Nwaozuru, & Iwelunmor, 2017; Díaz et al., 1999). These can be classified as either supply (e.g. quality of service and contraceptive shortage) or demand (e.g. fear of side effects, sociocultural norms and social network influence) factors.

Though extant studies have identified the different actors and factors in fertility decisions; they do not show how individuals or couples arrive at fertility decisions i.e. the steps and influences in the FP journey. They explain *what* affects fertility decisions and behaviour but not *why* and *how* people arrive at the decision. Furthermore, it is not clear from existing studies whether individuals consciously search for information on FP or not. This raises several questions. If they do, then what sources of information do they search? If they do undertake an information search, what are the preferred sources? Moreover, at which stage or phase do the respective factors and actors exert pressure or influence upon the decision-making process?

This thesis reports on three interrelated studies conducted in the Lusaka province of Zambia. The first study explored the potential influence of pre-marriage counselling (pre-MC) on fertility decisions using a survey (n=149). The second study involved semistructured interviews (n= 49) and the final study involved a survey (n=184). Respondents aged ≥15 years of age were randomly recruited from purposively selected health facilities, markets, bus stations and central business areas. The studies generated a mix of qualitative and categorical data. This data was analysed using thematic and descriptive analysis. Tests of association were carried out using Chi-square and Fishers' Exact Test. A mix of software was also used.

Epi Info was used to design the study instruments, input and store data, while Excel was used to clean the data and analysis was carried out using SPSS 24® and NVivo 12®.

This thesis makes clear the decision processes and influences on four different but interlinked fertility decisions: to have a child (or children) or not; number of children to have (family size); birth interval, and contraceptive choice. The most complex of these fertility decisions is the contraceptive decision. Hence, the need for the construction of the contraceptive decision-making framework- an outcome of this research. Constructs from a mix of theories, Theory of Planned Behaviour (TPB), Theory of Conjunctural Action (TCA), Transtheoretical Theory Model (TTM) and the Engel-Kollat-Blackwell (EKB) Consumer Decision-Making Model were relied upon to guide the construction of the decision-making process.

Five (5) research questions are answered in this thesis. The first question is w*hat factors influence the respective fertility decisions*? The decision to have a child (or children) is influenced by Christian religious beliefs, need for continuity of humankind and social security for one's old age-the children will provide for the elderly parents. The family size decision is influenced by the ability to provide for the child and risk of child mortality. Other than the health benefits of the child and the mother, the birth space/interval decision is also influenced by the ability to provide for the child and opportunity costs (i.e. work, education, personal self-care for the woman). The contraceptive decision is influenced by a number of factors namely objective (i.e. limit, space or postpone births), personal (e.g. age, health, marital status), sociocultural (values, beliefs, approval), supply (e.g. availability, cost) and method related (e.g. mode and frequency of administration).

The second research question is what *is the role of the respective actors in the contraceptive decision*? These actors are the couple, FP service providers (doctors and nurse) and close relations (e.g. mother, sister, friend, marriage counselors). The female spouse/partner is often the ultimate decision maker while the male spouse/partner provides the support for and approves the adoption and use of modern contraceptives. The FP service providers provide expert counselling while close relations are engaged to learn from their personal lived experiences of using modern contraceptives.

Within the web of social network are potentially hidden actors like marriage counsellors in the Zambian society. Therefore, the third research question is *how does pre marriage counselling (pre-MC) influence fertility decisions and behaviour*? Pre-MC influences key elements of the husband-wife relationship such as sexual relationship, communication, leadership and authority roles and responsibilities. However, it does not

directly influence fertility decisions. Some people consult marriage counsellors (MC) about family planning because they are a trusted source of information about married life while others do not because they are sceptical about the MC's knowledge about family planning.

The aim of this thesis was to construct the contraceptive decision-making framework by answering the research questions: W*hat are the steps that people take to arrive at a contraceptive decision*? W*hich factors and actors are active at the different stages of the decision-making process*? Using a deductive thematic approach, five key steps were identified from the data; need recognition, information search, engagement of third parties, evaluation and method selection, experience and sustained use. These steps resonate with the key constructs of the EKB model. The constructed framework shows the actors and factors at play at the different stages of the contraceptive decision-making process.

Thus, by addressing these research questions and ultimately constructing the contraceptive decision-making framework, this thesis makes a practical and theoretical contribution. First, the constructed framework provides a basis for enhancing the development of an integrated theory on fertility decisions and behaviour. Second, it provides a framework and evidence required to support the use of a SM approach to enhance the potential effectiveness of FP interventions and programs.

Table of Contents

Abbreviations

AASM: Australian Association of Social Marketing

AIDS: Acquired Immunodeficiency Syndrome

AUD: Australian Dollar

CBD: Central Business District

CBD: Community Based Distribution

CDC: Centre for Disease Control

CHAZ: Churches Association of Zambia

CPR: Contraceptive Prevalence Rate

CSO: Central Statistical Office

DFID: Department for International Development

DHO: District Health Office

DHS: Demographic and Health Survey

EKB: Engel-Kollat-Blackwell (model)

ESMA: European Social Marketing Association

FAM: Fertility Awareness Methods

FP: Family Planning

FP2020: Family Planning 2020

GRZ: Government of the Republic of Zambia

HBM: Health Belief Model

HBT: Health Behaviour Theories

HIV: Human Immunodeficiency Virus

IKS: Indigenous Knowledge System

IPPF: International Planned Parenthood Federation

iSMA: International Social Marketing Association

IUD: Intrauterine (Contraceptive) Device

LAM: Long Acting Methods

MCHN: Maternal health, Mortality, Child health and Mortality and Nutrition Deficiencies

MCM: Modern Contraceptive Methods

mCPR: Modern Contraceptive Prevalence Rate

MCs: Marriage Counsellors

MeTA: Zambia Medicines Transparency Alliance Zambia

MOH: Ministry of Health

NGOs: None Governmental Organisations

NHRA: National Health Research Authority

OPD: Outpatient Department

PB: Theory of Planned Behaviour

PI: Principal Investigator

PPAZ: Planned Parenthood Association of Zambia

Pre-MC: Pre-Marriage Counselling

PRH: Fertility and Family planning, Sexual behaviour and Knowledge of HIV/AIDS

RA: Research Assistant

RH: Reproductive Health

ROI: Return on Investment

SDGs: Sustainable Development Goals

SFH: Society for Family Health

SM: Social Marketing

SMEs: Small and Medium Enterprises

SPSS: Statistical Package for Social Sciences

SRHC: Sexually and Reproductive Health Commodities

STIs: Sexually Transmitted Infections

TCA: Theory of Conjunctural Action

TMA: Total Market Approach

TRA: Theory of Reasoned Action

TTM: Theory of Transtheoretical Model

UK: United Kingdom

UN: United Nations

UNFPA: United Nations Population Fund

USA: United States of America

USAID: United States Agency for International Development

WHO: World Health Organization

ZMW: Zambian Kwacha

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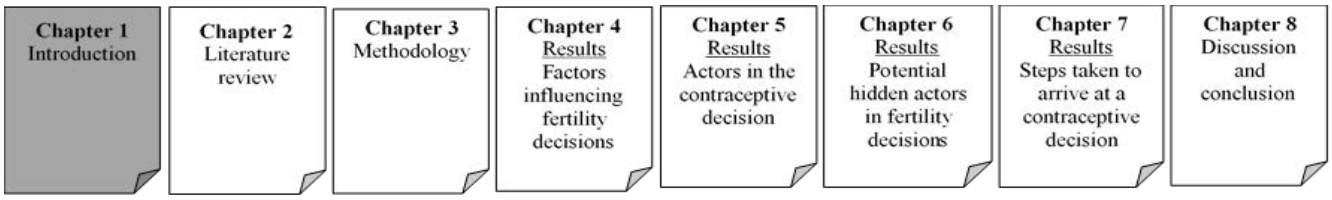
Chapter 1: Introduction



1.1 Introduction

Social Marketing (SM), a subdiscipline of marketing, continues to be used in interventions to address society's social, environmental and health problems (Rundle-Thiele et al., 2019). SM, like its parent discipline marketing, is transdisciplinary in nature. This is because it relies on a mix of theory from marketing and other disciplines such as psychology, sociology and public health (Firestone, Rowe, Modi, & Sievers, 2017; French, 2009). SM offers an approach for delivering non-commercial products and services to the user and brings about behaviour change using techniques that go beyond mere information dissemination or awareness building (Molhatra & Bhat, 2014).

From its origins until the present, SM has been predominately applied in health problems with multiple studies relating to family planning (Andreasen, 2003; Fox & Kotler, 1980; Gordon, Russell-Bennette, & Lefebvre, 2016) and the HIV/AIDS epidemic (Firestone, Rowe, Modi, & Sievers, 2017; Population Services International, 1999). Unlike information-only health behaviour change approaches, SM uses a systematic approach and unambiguous criteria and places emphasis on outcomes, return on investment and developing context-specific interventions (French, 2009). This holistic approach of SM has been found to be useful in overcoming challenges of ; underdeveloped and underfunded health infrastructure, low literacy, geography and cultural norms in the delivery of reproductive and family planning services in developing countries (Population Services International, 1999).

Fertility and population growth rates have several impacts including the socioeconomic development of a nation (Merrick, 2002; Rosenzweig, 1987; Starbird, Norton, & Marcus, 2016). Thus, attaining a sustainable population growth rate for the benefit of society remains a priority for every country. This is because human capital (i.e. stock of human labour) is a fundamental resource in the value creation process that leads to social and economic development (Furuoka & Munir, 2011; Rosenzweig, 1987).

For example, in some developed countries such as Germany, Japan, Australia and Canada, family planning policy aims to increase the population growth rate by introducing

child support systems for families with two or more children or immigration of appropriately skilled young persons (Becker & Posner, 2013; Kudrna & Woodland, 2011). Conversely, in developing and emerging economies like Zambia, Nigeria and India, the aim is to slow down the population growth rate (Dholakia & Dholakia, 2014).

Thus, the need to make family planning policy a priority in any country is driven by not only the demographic rationale but also health and human rights which are all required in the attainment of Sustainable Development Goals (Seltzer, 2002; Starbird et al., 2016). Shah (2005, pg. 2) defines Family Planning (FP) as:

> *The ability of individuals or couples to have the desired number, spacing and timing of children through the use of modern or traditional contraceptives or the treatment of involuntary infertility*.

From about the mid-20th century to date, nations, multilateral institutions and donors have invested in FP programs. However, the success of these programs varies across the world. This is due, in part, to discrepancies in social, economic and health systems and cultural factors of nations and regions (Robinson & Ross, 2007). Though public policy has a role to play in reproductive health, for example the provision of free FP services and contraceptives through public health centres, fertility decisions remain usually a private and personal matter (Merrick, 2002). Therefore, understanding fertility decisions is crucial to the development of effective FP programs because they occur in a "social market". In this thesis, a social market is defined as:

> *the space or environment in which human behaviour, such as alcohol abuse, result in social problems, such as dangerous driving, but can be changed for the benefit of the individual and the community*.

This definition was developed from the underlying concepts of a commercial market and human behaviour in a social context. This was important because of the need to understand human behaviour when considering non-purchase decisions such as fertility, which are common in Social Marketing. As in any given market where the laws of demand and supply hold, this thesis assumes that there are two sides to FP.

Supply is determined by factors such as distance to health centres, stock and available contraceptives (i.e. method mix), cost of contraceptives, friendliness and competence of service providers, and provider-imposed restrictions etc. Demand is shaped by sociocultural norms and social network influences such as religious beliefs, male dominance, and social and cultural values placed on sexuality and fertility (Ackerson & Zielinski, 2017; Tucker, 1986; Ziyani, Ehlers, & King, 2003). Furthermore, the various and divergent factors

at play in the FP market can be categorised as invisible (software) and visible (hardware) (Figure 1). The focus of this thesis is fertility decisions and behaviour which are on the demand side of the FP market (Figure 1).

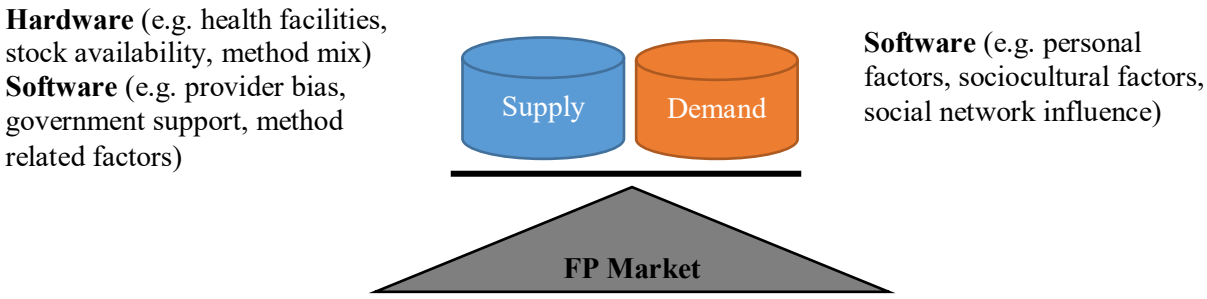


Figure 1: The Family Planning market (developed by author)

The FP discourse attracts scholars and practitioners from a variety of disciplines such as economics, demography, development studies, sociology and public health (Firestone, Rowe, Modi, & Sievers, 2017; Merrick, 2006; Shah, 2005). This is because FP and reproductive health policies, programs and interventions benefit not only individuals but also the wider community and nation at large (Cleland et al., 2006). Therefore, it is important to stress that SM informs this thesis. Figure 2 shows the approach adopted in this thesis to understand fertility decisions and behaviour.

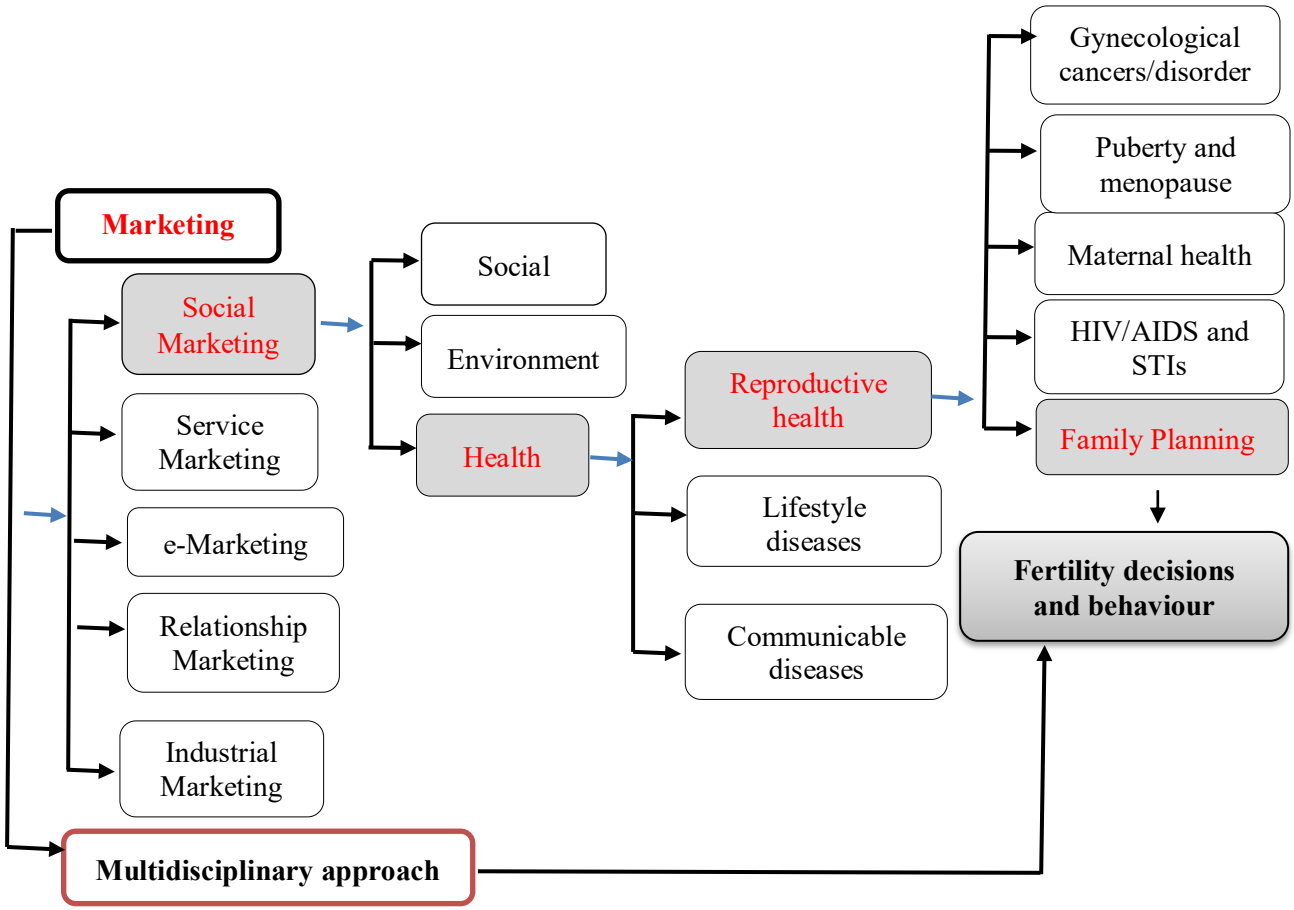


Figure 2: Adopted evidence-based approach to understanding fertility decisions and behaviour

1.2 Country Background

The Bantu people, who fled from the Great Lakes Regions, Luba/Lunda Kingdom, and Southern Africa due to battles or disintegration of kingdoms (Wotela, 2008), formed Northern Rhodesia (now Zambia) in the early 1900s. Although the official language is English, there are another 72 distinct local dialects and languages in Zambia (Pariona, 2017). Zambia is a land-locked country sharing borders with eight other countries and is currently divided into 10 provinces: Lusaka, Copperbelt, Central, Luapula, Northern, Southern, North Western, Western, Eastern and Muchinga (Figure 3).

Source: The Economist Group (2020)

Figure 3: Location and map of Zambia

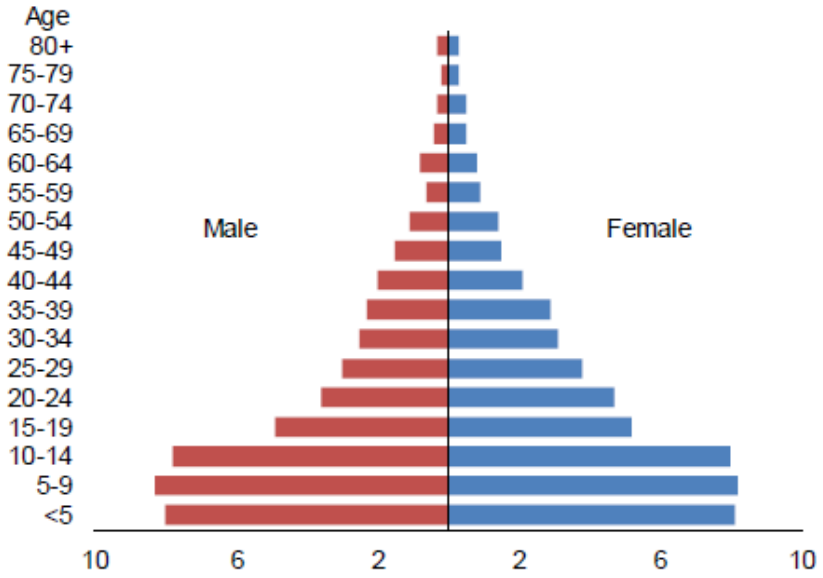
Zambia is classified as a lower middle-income country (Ngosa, 2011; Organisation for Economic Co-operation and Development, 2019). Mining, which is concentrated in the Copperbelt province, is the main economic activity. Other significant economic activities are construction and tourism. The high unemployment rate, human immunodeficiency virus (HIV) prevalence rate and poverty levels are key challenges in the country's development efforts (World Bank, 2016).

By 2020, the Zambian population was estimated at 18.2 million people, with a birth rate of 4.7 births per woman, child mortality rate of 60 per 1000 live births and life expectancy of 52.3 years (World Population Review, 2020). Although Zambia's population growth rate is among the highest in the world at 3.3 per cent, it is sparsely populated- with an estimated 24 people per square kilometre (World Population Review, 2020). It is one of the most urbanised countries in Sub-Saharan Africa and 40 per cent of Zambia's population is concentrated along the line of rail (Central Statistical Office, Ministry of Health, & ICF International, 2014).

The Zambian population is predominantly young, with over 50 per cent of the population below the age of 19 (Figure 4). A young population presents an opportunity to harness the population dividend. Gribble and Bremner (2012, pg. 1) define population dividend as:

Accelerated economic growth, which may occur when the age structure of a population is transformed due to rapid decline in mortality and fertility rate, accompanied by investment in education, skills development, job creation and improved governance.

Phumaphi (2011) explains that in order to harness the demographic dividend, access to FP service points and individuals' ability to make appropriate decisions about the timing, number and spacing of births must be prioritised. Therefore, policy and program options that could be adopted to accelerate fertility decline and harness the population dividend were presented to the Zambian government in a policy brief entitled *Accelerating fertility decline in Zambia: Opening the window of opportunity for the demographic dividend* (Fraser, 2015).



Source**:** Zambia Statistics Agency, Ministry of Health, and ICF (2019, pg.13)

Figure 4: Age structure of the Zambian population

1.2.1 FP Policy and Programs in Zambia

Like other developing countries, FP in Zambia emerged around the 1960s. However, it was not until the 1970s that Zambia first incorporated demographic variables in its 2nd National Development Plan (Msimuko & Khasiani, 1981). Zambia developed its Reproductive Health Policy in 2000 and in 2012 subscribed to the international FP program movement to increase the modern contraceptive prevalence rate (CPR) among women of the reproductive age 15-49 years by 2020 (Bellows et al., 2016). This movement, known as the Family Planning 2020 (FP2020), was launched during the 2012 International Family

Planning summit held in London, hosted by the UK government and the Bill & Melinda Gates Foundation (Bellows et al., 2016). FP2020 uses a mix of policy and programmatic approaches (Family Planning 2020, 2020a).

Zambia committed to: increase the modern contraceptive prevalence (mCPR) rate among married women from 32.7 per cent in 2012 to 58 per cent by 2020, address policy barriers that negatively impact the delivery of sexual and reproductive health services for adolescents or young people, and to double domestic funding for FP commodities (Bellows et al., 2016; Family Planning 2020, 2020c).

On the basis of Zambia's FP2020 commitments, the Zambian government developed the 2017-2021 Adolescent Health Strategy and in 2018 increased the domestic funding for FP commodities to US$1.5 million (PIA, 2020). However, the target of 58 per cent for the mCPR was not attained by 2020 due to several different challenges. For instance, key donors such as the United Nations Population Fund (UNFPA), United States Agency for International Development (USAID) and the Department for International Development (DFID) had increasingly reduced funding to Zambia because it was reclassified from a low-income country to a lower middle-income country in 2000 (Ngosa, 2011). Limited funding of FP commodities is one of the factors that causes a limited method mix of contraceptives.

Other challenges include supply chain, logistics and data management. According to the Medicines Transparency Alliance Zambia, the availability of Sexual and Reproductive Health Commodities (SRHC) including contraceptives is less than 40 per cent of the required supply at the health facility level (MeTA Zambia, 2017). Therefore, the government rolled out the Essential Medicines Logistics Improvement Program to 85 of 106 districts in the country, covering eight out of 10 provinces in Zambia. In addition, harmonisation of existing electronic logistics management systems was also undertaken.

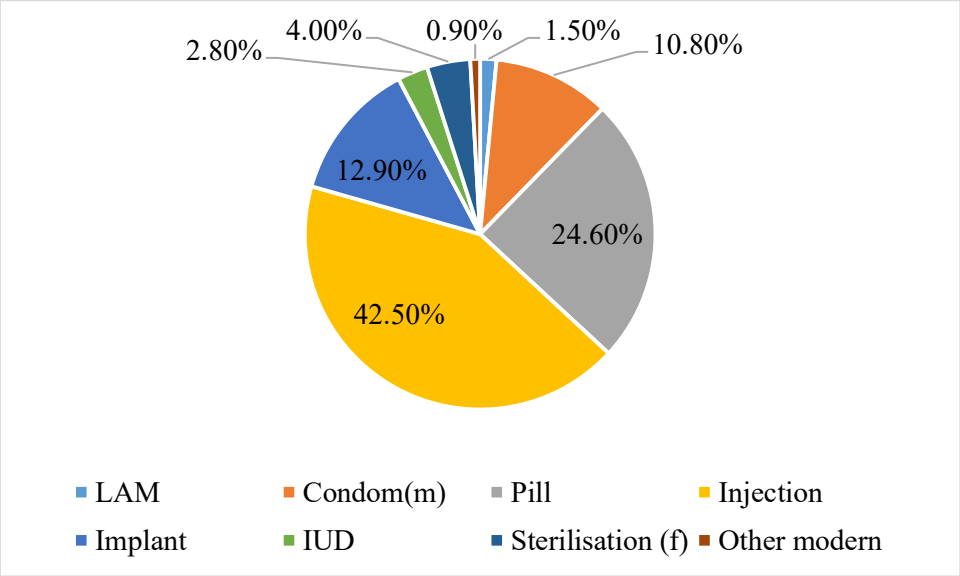
However, the nature of the country compounds some of the challenges of managing the supply chain of FP commodities. This is because Zambia's overall population is geographically dispersed and some areas in provinces like Western and Luapula are hard to reach due to rugged terrain and limited forms of transportation. This makes it difficult for government agencies to deliver health services and commodities, especially in the rural parts.

Nevertheless, Zambia has made significant progress towards its FP2020 Commitments (Family Planning 2020, 2019, 2020b) and its FP strategies include the scaling up of the use of community based distribution system (United Nations Population Fund, 2020) and total market approach (The Palladium Group, 2017). Community-based distribution CBD) is the use of community health workers to promote FP, and to deliver FP

commodities and services to population segments (e.g. urban slums, rural areas and hard-to-reach communities) that may have challenges in accessing health facilities (Aliyu, 2018). Total market approach (TMA) is a policy framework which pools resources of the public, private, commercial and donors and addresses health market inefficiencies in order to equitably and efficiently service FP demand (Kein, Wood, Cisek, & Koseki, 2019).

1.2.2 Uptake of Modern Contraceptives in Zambia

Zambia is one of the countries in Sub-Saharan Africa where at least 50 per cent of the married women use some form of contraception (i.e. use or do something to prevent pregnancy) (Central Statistical Office, Ministry of Health, & International, 2014; Zambia Statistics Agency et al., 2019). Hormonal contraceptive injection (intramuscular and in Zambia a progesterone only formulation), oral hormonal contraceptive pill which includes a range of combinations of oestrogen and progesterone formulations and in 21 and 28 day packaging) and implants (subdermal implantable rod containing the hormone progesterone) are the common methods among users (Figure 5).



LAM= Long Acting Methods IUD= Intra Uterine Device

Source: Family Planning 2020 (2019)

Figure 5: Modern Contraceptive Method Mix

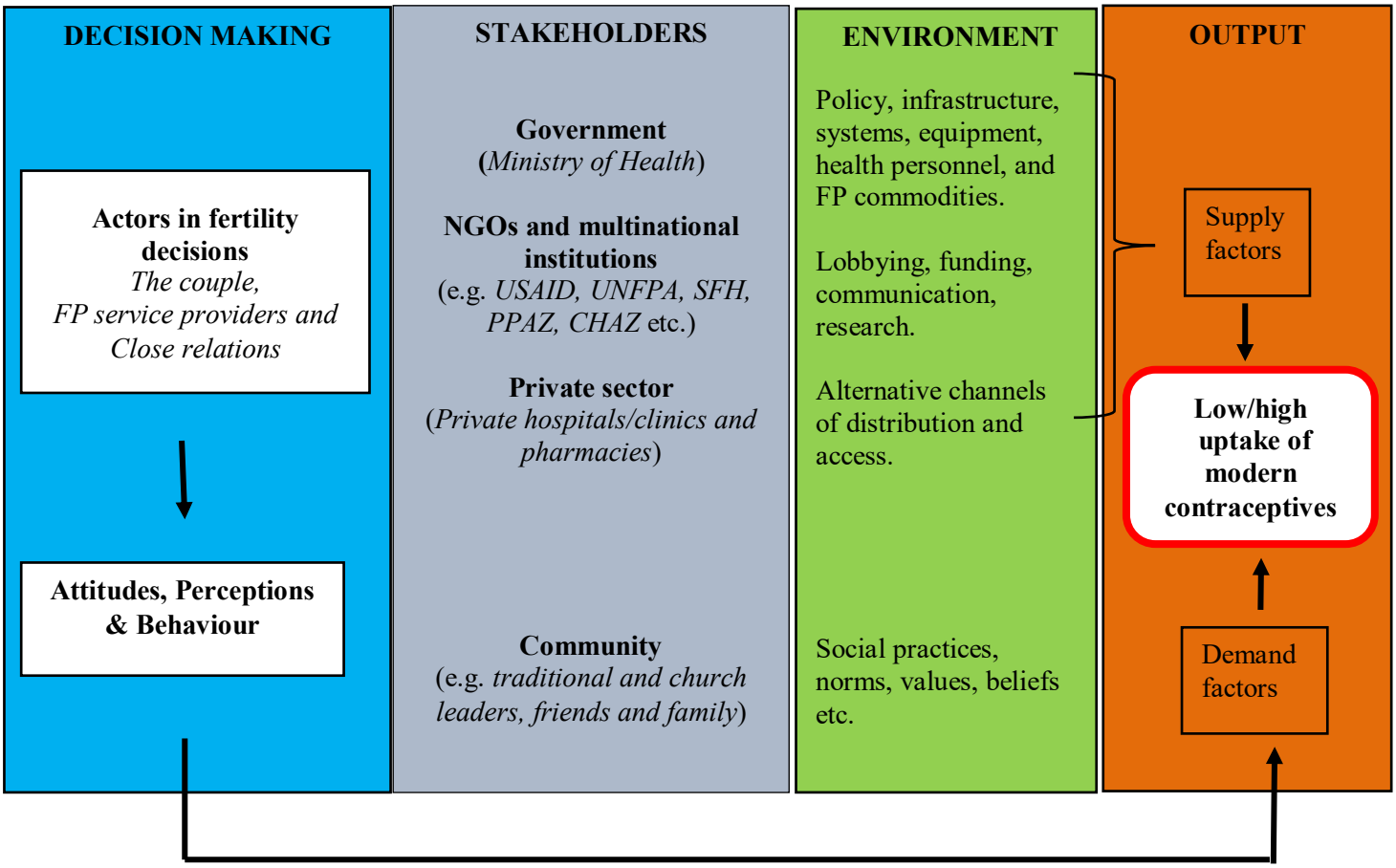
Injectables and implants have significantly contributed to the uptake of modern contraceptives in Zambia (Central Statistical Office et al., 2014; Zambia Statistics Agency et

al., 2019). Sayana Press®, a self-injectable subcutaneous progesterone only contraceptive, has been easily accepted by many women and is projected to further increase the CPR for Zambia (Tanvi, Back, Bwembya, & Banda, 2019).

The majority (67 per cent) of non-users state an intention to use modern contraceptives but cite fertility and method-related factors such as fear of side effects and mode of administering as reasons for non-use. Discontinuation rate after 12 months is estimated to be 36 per cent and this continues to be a challenge, mainly due to the experience of adverse side effects (Zambia Statistical Agency, 2018). In 2019, Zambia's mCPR among all women aged 15-49 was 35.2 per cent and among married women was 48.5 per cent (Family Planning 2020, 2020c). Zambia's fertility rate of 4.7 births per woman is ranked the 13th highest in the world (World Population Review, 2020a).

Furthermore, Zambian society is characterised by early marriages, that is marriage before the age of 18 (Central Statistical Office et al., 2014; United Nations Children's Fund, 2005). Women get married at an average age of 18 and most of them report having their first sexual encounter at 17. Although men generally marry a year later than women do, they report their first sexual encounters as occurring five years before they get married. Adolescents and young people continue to report provider bias and social approval of young people who are not married for using some modern contraceptive methods are some of the barriers (Silumbwe et al., 2018).

Like other countries in the region, FP awareness in Zamia is almost universal but uptake of modern contraceptives remains low. This low uptake is a result of both demand and supply factors (Figure 6). The FP landscape is made up of fertility decisions, stakeholders and the environment that determine the uptake of modern contraceptives (Figure 6).



Source: Author generated based on literature review

Figure 6: FP Landscape in Zambia

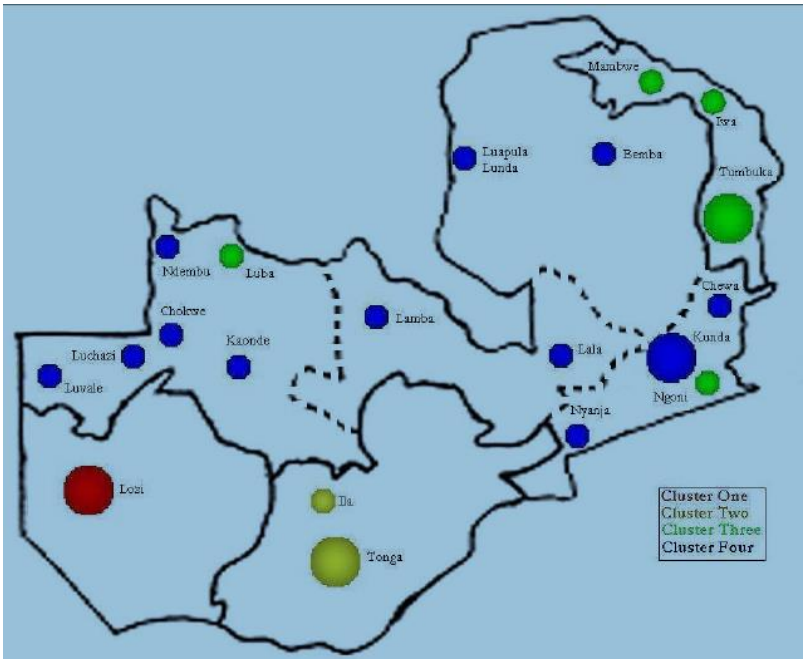
1.2.3 Fertility Differentials in Zambia

Zambia is characterised by fertility differentials across settlement patterns i.e. rural and urban. These fertility differentials are not an emergent phenomenon as they have long been noted in fertility research (Lerch, 2019; Okore, 1980). In the case of Zambia, fertility differentials before 1980 were visible across four traditional reproductive clusters (Wotela, 2008) as well as between urban and rural settlement patterns (Mitchell, 1964).

The four traditional clusters in Zambia as established by Wotela (2008) are (1) Low Traditional Fertility regime, (2) Medium Traditional Fertility regime, (3) High traditional fertility patrilineal regime and (4) High traditional fertility matrilineal regime (Figure 7). Wotela (2008) used Murdock's Ethnographic Atlas to establish these regimes. Therefore, these traditional clusters show ethnic attitudes towards fertility which were determined by

the political and economic base, social structure and community organisation, and governance of courtship and sexual relations.

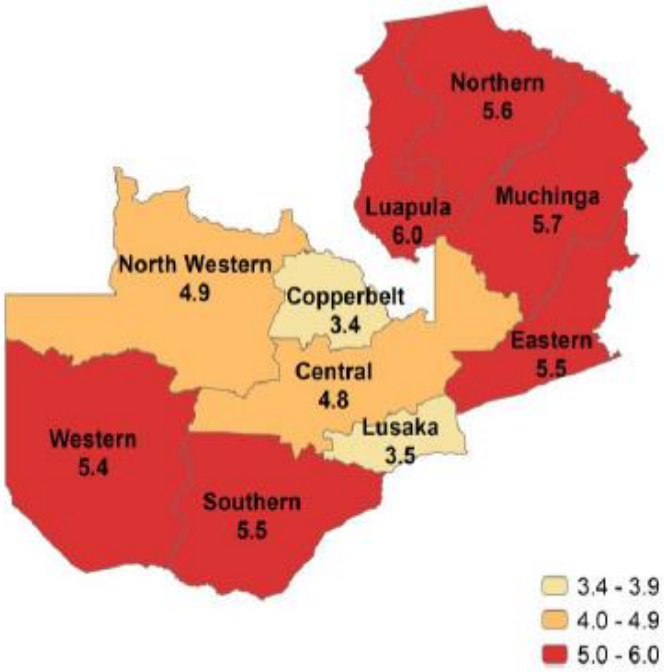
However, these ethnographic fertility regimes began to converge due to urbanisation and transitioned to the current rural-urban fertility differential (Wotela, 2008). Nonetheless, traditional clusters remain important in fertility research because in African societies such as Zambia, traditional and social institutions remain important channels for controlling sexual and marital unions (Wotela, 2008).



Source**:** Wotela (2008, pg.149)

Figure 7: Traditional Reproductive Clusters by Ethnic group in Zambia

Today, rural-urban fertility differentials persist in Zambia. The predominantly urban provinces (Lusaka and Copperbelt) have lower fertility compared with the predominantly rural provinces (e.g. Luapula and Eastern) (Figure 8). These differentials are caused by variances in attitudes, sociocultural, socioeconomic and demographic factors (White & Speeizer, 2007). For example, rural areas are characterised by low literacy levels, high rates of early marriages, low income, scepticism about some modern contraceptives and male dominance (irrespective of the tribe) in decision-making at relationship (marriage) and household level (Ashraf, Field, & Lee, 2014).



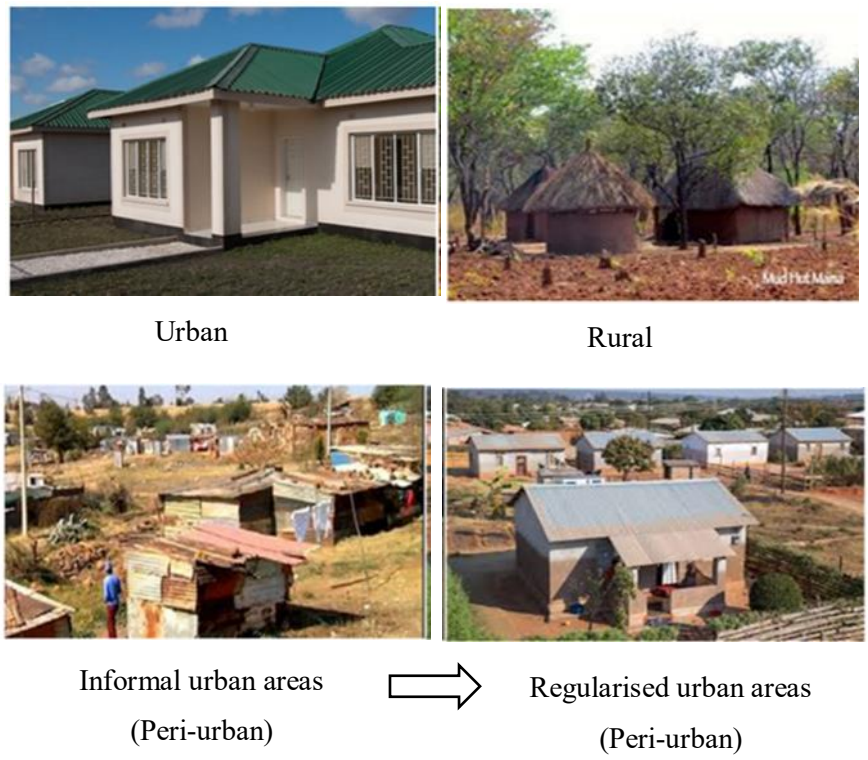
Age group	Residence		Total
	Urban	Rural	
<15	1	4	3
15-19	88	174	135
20-24	144	260	203
25-29	153	245	199
30-34	153	222	187
35-39	107	164	138
40-44	33	86	63
45-49	5	16	12
TFR (15-49)	3.4	5.8	4.7
GFR	120	201	163
CBR	30.9	38.4	35.3

Source: Zambia Statistics Agency et al. (2019, pg. 74, 80)

Figure 8: Fertility rate (urban and rural) per province, Zambia (number of births)

While extant studies on fertility look at fertility differentials between urban and rural areas, transitional zones (i.e. periurban areas) have become a common phenomenon in Africa (Iaquinta & Drescher, 2004; Wehrmann, 2008). In Zambia, periurban areas are not officially recorded because they have emerged on both statutory and customary land, posing a challenge on how to document landholding due to the interface between the two land tenure systems (United States Agency for International Development, 2018). Though not officially documented because these settlement are unplanned, informal and transitioning zones between urban and rural area, peri-urban areas are becoming important in development efforts (United States Agency for International Development, 2018).

In fact, peri urban areas require context-specific understanding of their population growth (Ford, 1990). In Zambia 70 per cent of the urban population, live in these informal settlement areas. Therefore, government and other stakeholders have embarked on projects to upgrade and regularise informal urban settlements (Karg et al., 2019; Wehrmann, 2008) (Figure 9).



Source: Adapted from LandLinks (2020)

Figure 9: Pictorial description of settlement patterns in Zambia

To bridge the gaps in fertility and contraceptive prevalence across the different settlement patterns, White and Speeizer (2007) propose the use of customised FP programs such as community-based distribution (outreach), in the form of health worker visits, which are socially and culturally sensitive.

1.2.4 Health Facility Mix in Zambia

Delivering health services in Zambia is a challenge because of the geographical vastness of the country and resource limitations. Like other countries in the region, the private sector and faith-based organisations are key partners in developing health facility infrastructure and offering health services. Health facilities in Zambia are at different levels, serve different catchment areas and are of different ownership type (Table 1). The most recent list of health facilities in Zambia (Ministry of Health, 2017) shows that the majority of the health facilities are government owned (79 per cent), followed by private (19 per cent) – e.g. mines, companies and commercial proprietors, and 2 per cent owned by faith-based

organisations or non-governmental organisations (NGOs). Family Planning services are offered by all health facilities (all levels) except for some faith based and some privately owned facilities.

Table 1: Zambia Health Facility Mix

Level	Description
Third	Specialist or Tertiary Hospitals – highest referral hospitals, with catchment population of approximately 800,000.
Second	Provincial or General Hospitals – found in provincial headquarters, with catchment population of 200,000-800,000.
First	District Hospitals found at district level are third-level referral hospitals serving between 80,000 and 20,000.
Health Centre	Urban centres or clinics which serve a catchment population of 30,000 to 50,000. Rural Health Centres serving a population of 10,000.
Health Post	Lowest levels of health facilities built in communities far away from health centres (set up within 5km radius in sparsely populated areas) serving catchment population of approximately 3500 in rural areas and 1000 to 7000 in urban settings.
Total	

Source: Ministry of Health (2012, pg.9)

1.2.5 Conclusion

Generally, there is a significant contrast between intended and actual fertility behaviour among many African communities (Kabra, Ali, & Kiarie, 2017). For example, in Zambia, the fertility desired by women is reported to be 4.0 births per woman while the actual fertility is 4.7 births per woman (Zambia Statistics Agency et al., 2019). Both desired and actual fertility are well above the population replacement level of 2.1 births per woman (Gietel-Basten & Scherbow, 2019). This contrast between intended and actual fertility behaviour can be explained by factors such as differences in fertility preferences between husband and wife. In some cases, this results in marital conflicts and divorce (DeRose, Dodoo, & Patil, 2002; Wilson-Williams, Stephenson, Juvekar, & Andes, 2008). In many African and Asian societies, fertility has been found to be one of the reasons for marital conflict and domestic violence, apart from demographic and socioeconomic factors, which is a barrier to uptake of modern contraceptives (Bishwajit & Yaya, 2018; Dillon et al., 2015).

Nonetheless, FP is commonly practiced, resulting in 63 per cent of pregnancies being planned, an average birth space of 35 months, 6 per cent unplanned pregnancies and 31 per cent mistimed pregnancies: woman who did not want to be pregnant at the time of the present pregnancy. Recent trends show a growing preference for injectables, pills and implants. However, method-related reasons for not using modern contraceptives (potential side effects

and mode of administration) are impeding uptake and discontinuation of modern contraceptives in Zambia. While the use of any contraceptive among women is above average and the intention to use modern contraceptives is 67 per cent (Central Statistical Office et al., 2014; United Nations, 2015), uptake of modern contraceptives remains low.

Zambia is not only a priority for FP funding and programs but an interesting case study. As already noted, Zambia has one of the highest fertility rates in the world of 4.7 births per woman and it is challenging to deliver health services and commodities for a geographically dispersed population. Occurrences of early marriages, HIV/AIDS prevalence rate and teenage pregnancy remain high in Zambia. Donor funding for FP commodities is also set to keep reducing as it is now declared a lower middle-income country. In recognition of this, the Zambian government is motivated and committed to investing in reproductive health and to turn the predominantly young population into a productive workforce for economic development purposes (i.e. demographic dividend).

Therefore, a study on the personal fertility decision-making process and contraceptive-related behaviour in Zambia and Sub-Saharan Africa was timely, because of the high fertility rate and predominantly young population on the continent. The Zambian context provides a useful case study for understanding the lived complexity of making fertility decisions and the landscape (Figure 6) because it represents the 'average' fertility scenario- its fertility rate and mCPR is neither lower nor higher compared to that of the region.

1.3 Research Problem

Research on fertility choices and behaviour clearly establishes the influence of information factors and actors at play (Blackstone et al., 2017; Haider, & Sharma, 2013). However, the steps or phases that individuals consciously and unconsciously undergo to make fertility choices remain under-explored. This is in spite of the existence of several behavioural health theories such as the Health Belief Model (Houchbaum et al., 1950), Theory of Reasoned Action (Ajzen & Fishbein, 1980), Theory of Planned Behaviour (Ajzen, 1991) and the Health Service Model by Andersen (1995). There is no contemporary theoretical model that depicts the personal fertility decision-making process along the reproductive lifespan. Fertility choices at adolescent and midlife stages may vary.

Actors in the fertility decision-making process may differ depending on the context. Although evidence shows that the dominant actors in fertility decisions are husband and wife, in Africa, the potential for "hidden" actors cannot be overlooked because of the prevalence of

social network influence. For example, in Zambian society, marriage counsellors are potential "hidden" actors because pre-marriage counselling (pre-MC) is a mandatory undertaking for a couple who want to get married through a culturally and socially correct procedure. However, available fertility studies in Zambia rarely mention these potential actors.

There are four fertility decisions: to have a child or not; family size; birth interval; and contraceptive method. Of the four, the contraceptive decision is directly linked to the uptake of modern contraceptives, which is key in fertility transition. It is not clear whether individuals consciously search for information on FP. If they do, what sources of information do they search? At what stage or phase of the decision-making process are the respective factors and actors active?

1.4 Objective

The objective of this research was to construct the fertility decision-making process, a framework to support the use of a SM approach in FP programs and interventions for the Sub-Saharan region.

1.4.1 Research Questions

1. What factors and actors affect the respective fertility decisions?
2. What is the role of the respective actors in the contraceptive decision?
3. How does pre-MC influence fertility decisions and behaviour?
4. What steps do people take to arrive at a contraceptive decision?
5. Which factors and actors are active at the different stages of the contraceptive decision-making process?

1.5 Research Rationale and Contribution

The effective implementation of reproductive health policies and programs such as FP require a good blend of supply (health centres, staff, equipment, contraceptives etc.) and demand (fertility behaviour influenced by social-cultural norms and social networks) efforts (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). Unfortunately, emphasis has been on more tangible and visible (supply) factors like FP policies, logistics, FP commodities, training and supply of FP staff. Furthermore, funding for FP programs is mostly spent on capacity building and system restructuring, leaving little resources and attention for the intangible and invisible (demand) factors that are at play in fertility behaviour and personal decision-making.

This might be because investment in visible and tangible efforts (supply) is more likely to yield measurable results within a short period but investment in invisible and intangible efforts (demand) yields marginal results in the short term and is difficult to measure. This has led to debates about potential return on investment (ROI) from interventions (demand) because of the sparsely reported evidence on the use of theories and models in FP interventions (Luca & Suggs, 2013).

Correspondingly, there have been subsequent calls for more theory-based SM interventions (Rundle-Thiele et al., 2019; Truong, 2014). In response, Manikan and Russel-Bennett (2016) offer social marketers a way to develop theory and evidence to support their work. This thesis responds to this call by developing a contemporary contraceptive decision-making framework that depicts a personal decision-making process **that** can support an SM approach to FP initiatives thereby making both a theoretical and practical contribution. Figure 10 shows the theoretical and practical contributions that this thesis makes.

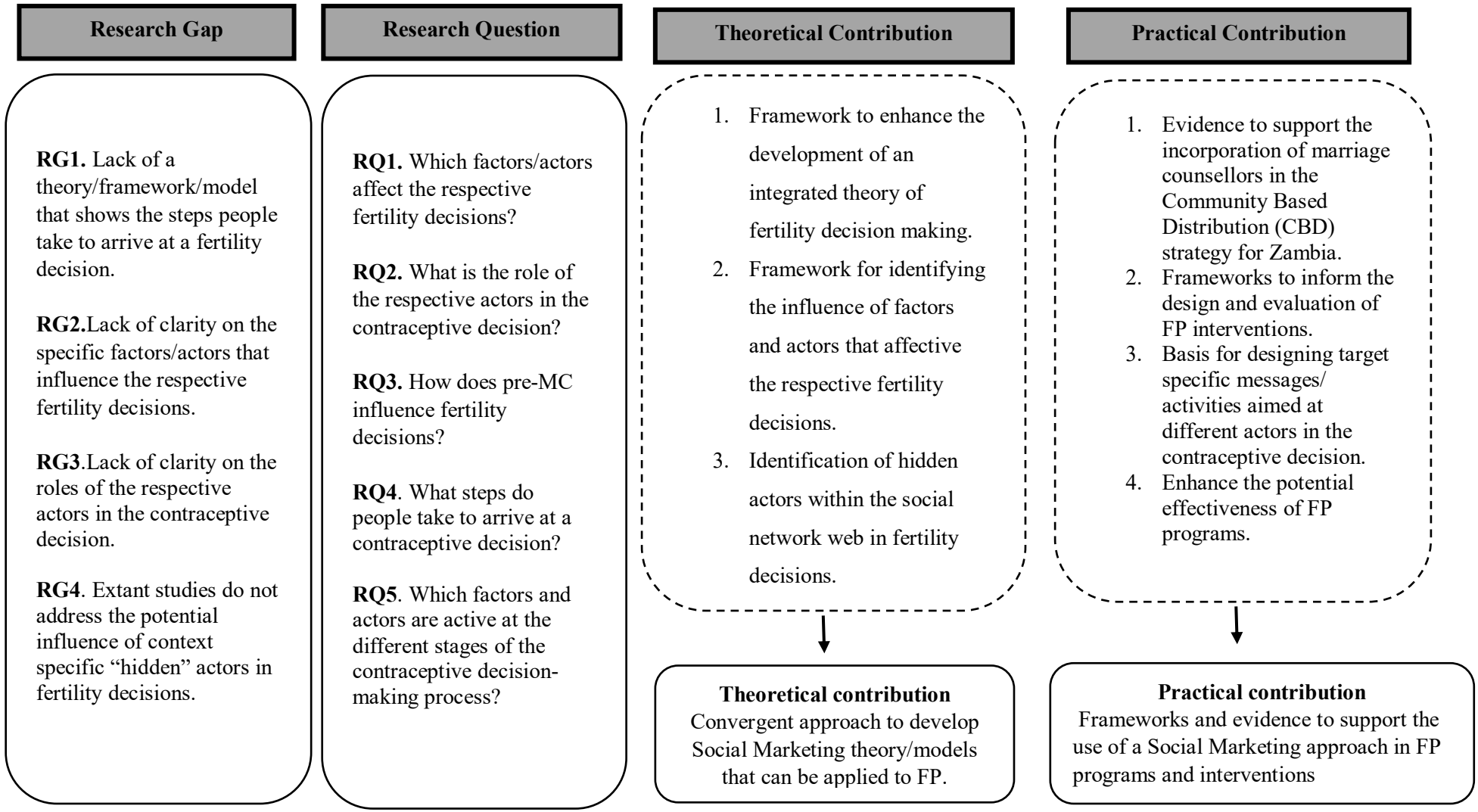


Figure 10: Summary of Thesis Contribution

1.6 Research Focus

Fertility decisions and behaviours are complex to understand, requiring an interdisciplinary approach (Sear, Lawson, Keplan, & Shenk, 2016). This is because fertility is shaped by biological, psychological, socioeconomic, cultural and political factors (Huinink, Kholi, & Ehrhardt, 2015). By nature, SM is interdisciplinary- offering a suitable approach for mapping out the contraceptive decision-making process.

As noted earlier, this thesis focuses on Zambia, one of the countries in Sub-Saharan Africa. Sub-Saharan Africa is a region known by many reproductive health scholars and practitioners for its high fertility rate but low uptake of modern contraceptives. Firstly, unlike many other studies, this thesis covers all three settlement areas in Zambia: urban, peri-urban and rural areas. Fertility research is characterised by urban-rural differentials due to various factors such as income, density and literacy

Therefore, this thesis relies on data collected from different settlement patterns (urban, peri-urban and rural) in order to identify, if any, similarities and differences in the decision-making process across the settlement patterns. Secondly, this thesis does not apply the most widely used health behaviour theories (e.g. Health Belief Model) because the focus in this case is on the decision-making process as opposed to fertility behaviour. In developing the framework, some constructs from a common theory (Theory of Planned Behaviour) are used, together with other less-commonly used theories or models namely; Engel-Kollat-Blackwell (EKB) Consumer Decision Making Model and the Theory of Conjunctural Action (TCA), all of which are also applied in this thesis. These theories are discussed in more detail in Chapter 2.

This selection was made in view of the thesis' objectives to define the structure of the fertility decision-making process and establish the stages of the process where the various actors and factors exert influence. The selected theories are appropriate because they have the constructs needed to develop a detailed understanding of the fertility decision-making process. The Theory of Planned Behaviour has been applied to fertility intentions (Ajzen & Klobas, 2013) and the Theory of Conjunctural Action is specific to fertility decisions (Morgan & Bachrach, 2011).

This thesis also applies the EKB consumer decision model, a commercial marketing theory. The EKB model has been found useful and applied to purchase decisions of both durable and non-durable goods. The model can also be adapted to service purchase decisions and the current digital environment (Ashman, Solomon, & Wolny, 2015; Longart, Wickens,

& Bakir, 2016). Though rarely applied in non-commercial decisions, it has been applied to activity such as voting decisions during presidential elections and it was found to be useful (O'Brien, 1987). Therefore, this thesis introduces new dimensions to fertility research but also builds on existing theories and findings using mixed-methods research techniques.

1.7 Thesis Structure

This thesis has eight chapters. The first three chapters follow a traditional thesis chapter structure: introduction, literature review and methodology. Chapters 4, 5, 6 and 7 present the results on the research questions while Chapter 8 provides the discussion and conclusions of the thesis (Figure 11).

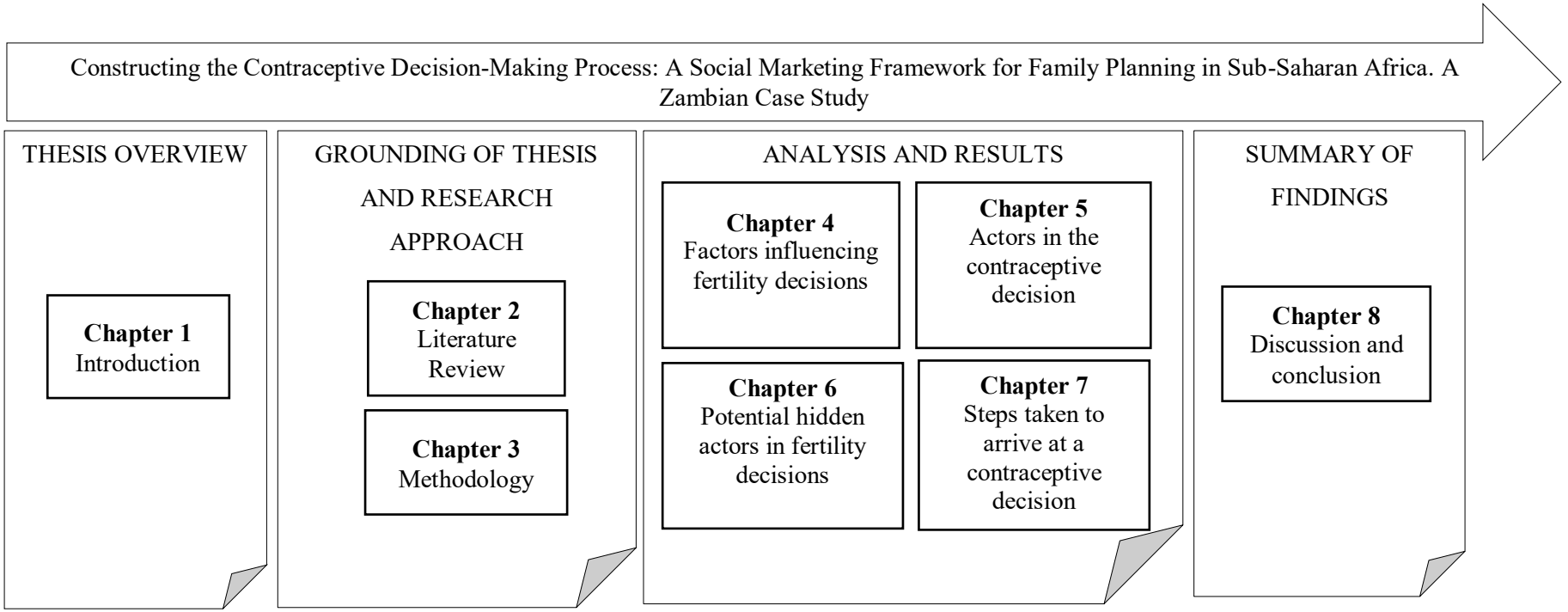
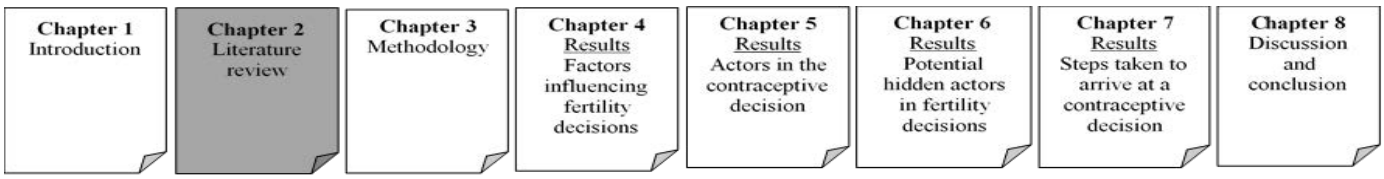


Figure 11: Thesis Structure

1.8 Chapter Summary

This first chapter sets the scene and context of this thesis. The introduction provides the rationale for RH policies and the FP agenda. The "research lens" of this thesis is also clarified because FP research attracts interest across different disciplines. This leads to the focus of the study, fertility decisions and behaviour, in a given case study, Zambia. The background to the case study is supported by a justification for why it is a suitable case study. This leads to the research gap supported by set objectives and research questions. The boundaries of the thesis are drawn by the delimitations and adopts a convergent approach to the application of mainstream marketing theory in a behaviour change context – fertility decisions.

Chapter 2: Literature Review



2.1 Introduction

This chapter presents a review of the literature that underpins the identification of research gaps that this thesis addresses. Wotela (2016) cautions that the literature review component is the most unstructured process in a research undertaking, leaving many to "wander in the wilderness". Therefore, to manage the risk of "drowning" in literature, especially since the field of FP research is vast, a literature guide (Figure 12) was used to structure this chapter using the themes identified from the literature review process. Wotela (2016) recommends this approach, explaining that a critical review of literature influences the identification of the appropriate research techniques, procedures and methods in a given research project.

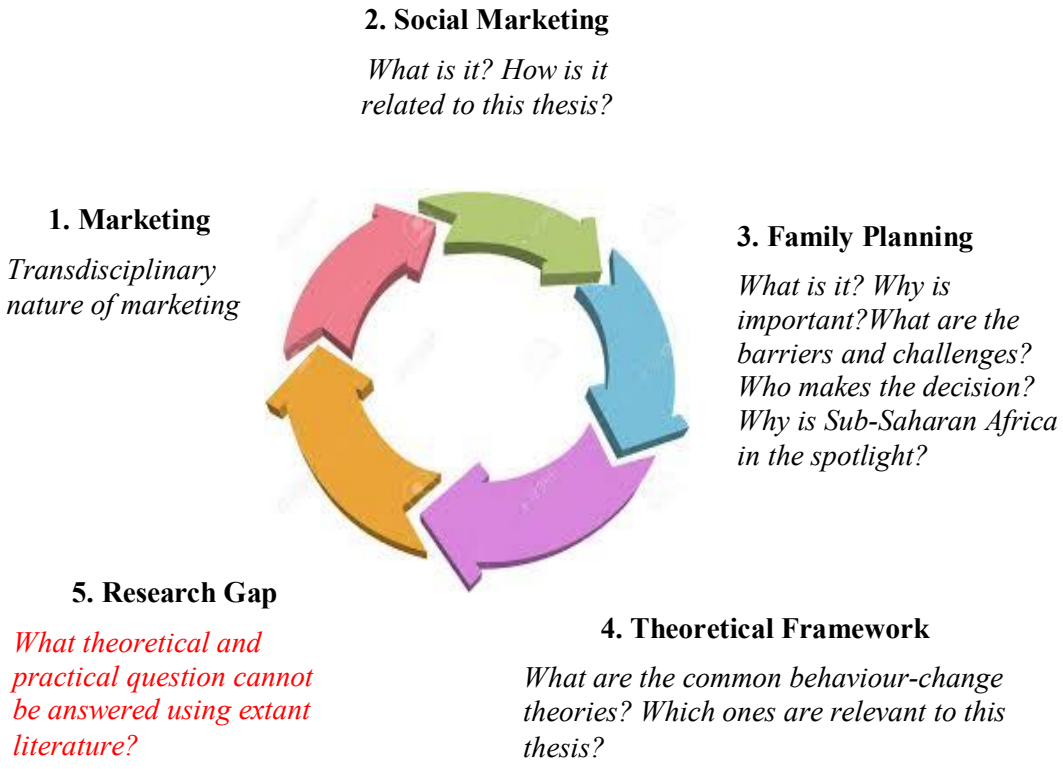


Figure 12: Literature Review Guide (Author generated)

The opening theme of this review is mainstream marketing, a discipline that has several subdisciplines including Social Marketing (SM). SM applies many concepts and tools from mainstream marketing such as the marketing mix, marketing research, segmentation and targeting. In addition, SM applies behaviour-change theories such as the Theory of Planned Behaviour (TPB) and the Theory of Reasoned Action (TRA), which are useful in understanding and predicting behaviour change. The call to include systems thinking (Lefebvre, 2011; Luca, Hibbert, & McDonald, 2016) in SM approaches supports Gordon and Gurrieri's (2014) discussion on the three paradigms of SM which are discussed in the sections about schools of thought among SM scholars and practitioners.

Although SM is applied to social, environment and health problems, a number of projects and studies are related to the health sector including a range of FP issues (French, 2009), reproductive health and the HIV/AIDS epedemic, especially in developing countries (Firestone et al., 2017). The focus of this thesis is fertility decision-making , which is key in designing context specific FP interventions.

Many FP interventions take a SM approach and it has been established that formative research provides insights about the environment in which fertility decisions are made and a basis for profiling the target population (Carins, Rundle-Thiele, & Fidock, 2016). Thus, a greater proportion of this chapter is a review of existing literature on FP-related behaviours leading to the identification of the research gap and setting the context of the thesis.

Many extant studies on fertility have applied behaviour-change theories. In this thesis, four theories are discussed, which form the theoretical framework: Theory of Planned Behaviour and Transtheoretical model-behaviour change theories, Engel-Kollat-Blackwell (EKB) Consumer decision making model – mainstream marketing and the Theory of Conjunctural Action fertility model.

2.2 The Transdisciplinary Nature of Marketing

Marketing, which is commonly understood as the planning and execution of the marketing mix in order to sell ideas, products and services, has been in existence for more than 100 years (Nicolau, Musetescu, & Mionel, 2014). The marketing mix, a fundamental concept of marketing whose detailed discussion is included in the latter part of this chapter, is a set of elements or ingredients that need to be mixed together in order to influence consumer behaviour (Constantinides, 2006).

Over the years, this discipline has evolved and several subdisciplines have emerged. These include consumer marketing, retail marketing, relationship marketing, service

marketing, industrial marketing and eMarketing (Goi, 2009). Domegan (2008) classify these subdisciplines of marketing as transactional, database, eMarketing, interaction and network marketing. Constantinides (2006) suggests that the subdisciplines of marketing be divided into two groups, traditional and emerging marketing. This suggestion is plausible because marketing is dynamic and will keep changing in response to consumer behaviour that is shaped by the wider environment (i.e. political, economic, sociocultural, legal, technological and ecological factors), thus subdisciplines of marketing will keep emerging.

Furthermore, marketing is often described as a discipline that is in transition because it is based on a mix of disciplines such as economics, psychology and sociology (Lefebvre, 2000; Peattie & Peattie, 2003). Marketing has continually been found to be applicable to many things beyond the original selling of products to selling of services, places, persons and desired behaviours for the good of the public (Dann, 2010; Peattie & Peattie, 2009; Peattie & Peattie, 2003). For this reason and its divergent application of integrated theory, concepts and research approach from different disciplines, marketing is described as transdisciplinary. Eagle, Morey, Case, Verne, and Bowtell (2011) define a transdisciplinary as the synergic integration of theories, models, concepts and approaches in developing conceptual frameworks that override discipline-specific approaches to common problems such as the environment and public health.

However, Demirdjan (1976) argued that the concept of transdisciplinarity must be taken with care because accepting the multifaceted nature of marketing may pose a challenge to the identity of the discipline. Graham (1993) advocated for the preservation and protection of an independent identity of the discipline of marketing in order to uphold the principles, theories and models that guide the discipline. This view did not prevail: for example, Nicolau, Musetescu, and Mionel (2014) assert that marketing has a wealth of discipline-specific theory in spite of being complex and dynamic. The discipline-specific theories include those focusing on buyer behaviour, consumer decision-making and the concept of the marketing mix, which form a basis for it to stand as an independent and undisputed discipline (Nicolau et al., 2014).

In the recent past there has been a surge in the application of marketing to different areas- other than purchasing decisions , such as public health, criminology, environmental sustainability, social welfare and policy (Donovan, 2011). This has brought social marketing (a subdiscipline of marketing)- focus of this thesis, into the spotlight. However, social marketing (SM) is not new.

2.3 Social Marketing (SM)

The discourse on SM was started by Wiebe (Wiebe, 1952) who challenged social scientists to promote good behaviour and habits in the same way as they did for commercial products. Therefore, SM is neither new nor emergent: it has developed over a period of more than 40 years with a bias towards health, though it is also applied to social and environmental change (Rundle-Thiele et al., 2019). According to Fox and Kotler (1980) by the end of the 1970s, SM had become an undisputed, well-accepted and appreciated subdiscipline of marketing used by organisations that advocate for worthwhile social concerns. Like many other concepts, SM has various definitions and or descriptions. The first definition was by Kotler and Zaltman (1971, pg.5) who defined it as:

> *The design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution and marketing research.*

Given the plethora of definitions, growth and the need to differentiate from other similar terms such as societal marketing (Andreasen, 1994, 2003; El-ansary, 1974), in 2013, the boards of the three largest international SM organisations agreed upon a consensus definition of SM as that which:

> *Seeks to develop and integrate marketing concepts with other approaches to influence behaviour that benefits individuals and communities for the greater social good. Practice is guided by ethical principles. It seeks to integrate research, best practice, theory, audience and partnership insight, to inform the delivery of competition sensitive and segmented social change programs that are effective, efficient, equitable and sustainable.* (Morgan, 2019).

This definition places emphasis on behaviour change, application of basic marketing concepts and a multidisciplinary approach. More importantly, it demonstrates the shift from earlier thought that SM is about selling of ideas to change behaviour and outcomes. This shift reflects Lefebvre (2011) argument that SM is an innovative way of solving complex social problems that may involve but not be limited to behaviour change.

Unfortunately, SM is still confused with other approaches like not-for-profit marketing (i.e. making of public service, charity, and religion) and social media marketing (i.e. marketing using social media platforms such as Facebook). It is also confused with health promotion – a process of enabling people to increase control over determinants of health such as health policy (World Health Organization, 1986) and behaviour-change

communication – coordination of messages and activities across a variety of communications channels aimed at promoting change in knowledge, attitudes norms and behaviour (Johns Hopkins University, 2020).

Unlike other behaviour change approaches, a fundamental assumption of SM is that people do not act in a desirable way because of lack of information. Although information is necessary, in many cases it is not able to warrant behaviour change on its own (French, 2009). This assumption and the underlying concepts of SM as reflected in the consensus definition and are useful in dealing with the confusion of *what is* and *what is not* SM. To address this challenge, SM benchmark criteria (Figure 13) were developed. SM benchmarking criteria is used to distinguish SM interventions from dissemination campaigns based primarily or exclusively on information provision.

Behaviour *Aims to change people's actual behaviour*	**Consumer Orientation** *Use a data sources and research methods to understand the lives and behaviour of the target population*	**Theory** *Use behaviour theory to understand behaviour and inform innervations*	**Insight** *Use information from research to identify actionable insights in the development of interventions*
Exchange *Benefits and costs of adopting and maintaining a new behaviour*	**Competition** *Understand what competes for the target audience's time, attention and inclination to behave in a particular way*	**Segmentation** *Do not use the same strategy for all population segments*	**Method Mix** *Do not rely on raising awareness but use a mix of methods (marketing mix) to bring about behaviour change*

Source: National Social Marketing Centre (2020)

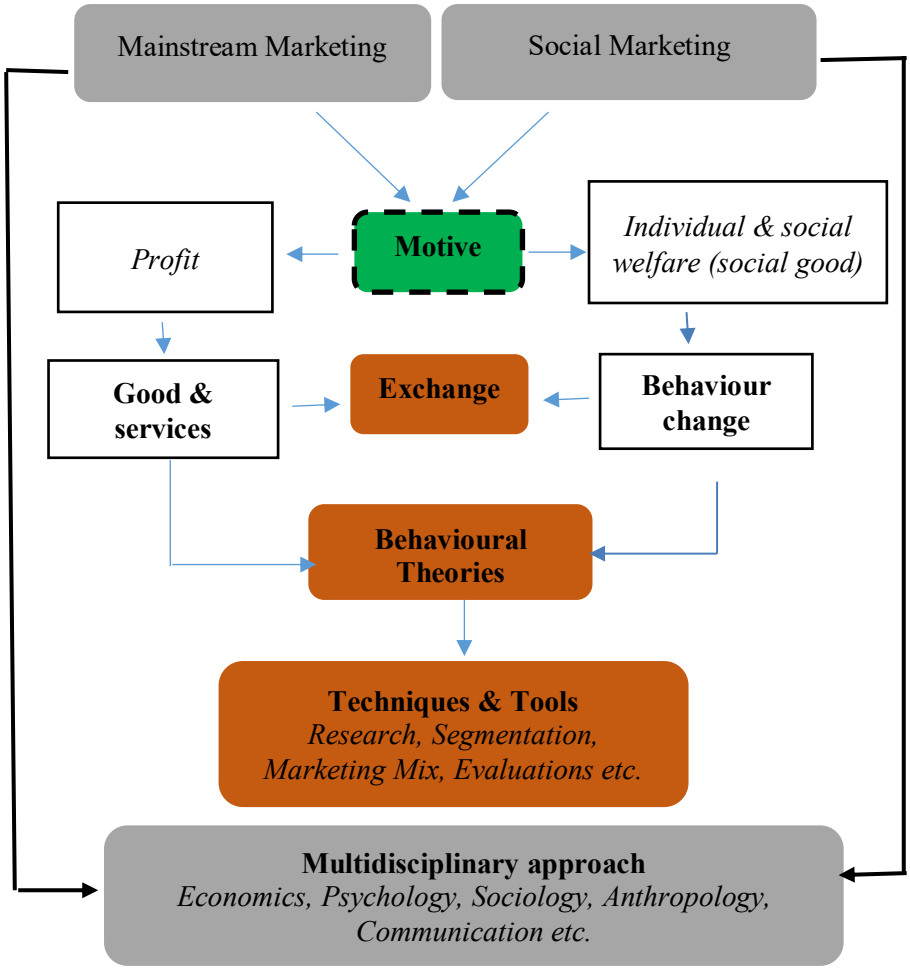
Figure 13: Social Marketing benchmark criteria

2.3.1 Social Marketing Theory

Social marketing uses a number of theories, concepts and tools from mainstream marketing. Some of the key theories used in mainstream marketing, such as the Theory of Planned Behaviour (TPB) and Theory of Reasoned Action (TRA), are also common in behaviour change (Bray, 2008; Davis, Campbell, Hilden, Hobbs, & Michie, 2015). The main difference between SM and mainstream marketing is the motive for the activity and who benefits from the efforts (Andreasen, 2002).

SM is concerned with human behaviour that can lead to improved welfare of the individual and society, while conventional marketing focuses on influencing behaviour which results in a commercial benefit for the commercial marketing organisation. Despite this

difference, human behaviour and exchange are the underlying principles in both SM and mainstream marketing (Rundle-Thiele et al., 2019; Tapp & Rundle-Thiele, 2016). Therefore, adoption of many theories and concepts of mainstream marketing into SM is common and justifiable. Figure 14 illustrates the similarities and differences between social and mainstream marketing.



Source: Author generated based on extant literature

Figure 14: Differences and similarities between mainstream and Social Marketing

However, some authors (Peattie & Peattie; 2009, 2003) caution scholars and practitioners not to adapt all theories and practices uncritically from mainstream marketing but instead to do this selectively and possibly develop specific and adequate theory, models and tools for SM. The points raised by Peattie & Peattie, (2009, 2003) are valid because they are essential in addressing the unique challenges that come with the efforts of solving social and health problems such as environmental pollution, obesity and high fertility rates. Generic marketing theory has been increasingly adapted to accommodate the complex SM

environment. For example, a fundamental concept and tool used in mainstream and social marketing is the marketing mix- which requires adaptation to the needs of the social market (Gordon, 2013).

2.3.2 The Marketing Mix

The term "marketing mix" was coined in the 1950s by Borden who was fascinated by Frey's description of business executives as "mixers of ingredients" (Goi, 2009). The premise is that there are specific elements that need to be mixed together in a strategic manner in order to influence the market, hence the term "marketing mix".

Originally, the marketing mix had 12 elements that were later reduced to the popular 4Ps which reflect a "physical goods-centric" approach to marketing. For the purposes of "non-physical activity" such as service provision, three additional Ps where introduced to reflect the nature of services. This led to the emergence and application of the current extended marketing mix (7Ps) (Akroush, 2011). Table 2 shows the different versions of the marketing mix by the milestone developers of the tool. Services marketing includes several factors that are of greater relevance to social marketing than product marketing (see factors 5-7 below).

Table 2: Different versions of the marketing mix (author generated)

Borden (1950s) (Original)	**McCarthy (1960s)** (Physical goods) "4 Ps"	**Booms & Bitner (1980s)** (Services) "7 Ps"
1) Product planning	1) Product	1) Product
2) Pricing	2) Price	2) Price
3) Branding	3) Place	3) Place
4) Channels of distribution	4) Promotion	4) Promotion
5) Personal selling		5) People
6) Advertising		6) Process
7) Promotions		7) Physical evidence
8) Packaging		
9) Displays		
10) Servicing		
11) Physical handling		
12) Fact finding and analysis		

In the SM context, Peatti and Peatti (2003) define the marketing mix as the controllable variables that practitioners can use to influence the attitudes, knowledge and behaviour of people in the target market. Table 3 shows the different versions of the SM mix.

Table 3: Versions of the Social Marketing mix (author generated)

Andreasen (2002)	**Peattie & Peattie (2003)**	**Donovan (2011)**	**Gordon (2012)**	**Akhtar & Bhattacharjee (2013)**
1) Product	1) Social Proposition	1) Population	1) Consumer	1) Proposition
2) Place	2) Costs of involvement	2) Product	2) Circumstances	2) Perception
3) Price	3) Accessibility	3) Place	3) Organisational competition	3) Platform
4) Promotion	4) Social Communication	4) Politics	4) Cost	4) Persuasion
5) Partnerships	5) Interaction		5) Process	
6) Policy	6) Competition		6) Channel strategies	

Irrespective of the context (i.e. social or commercial marketing) from inception to date there are debates on the actual elements and number of elements that go into the marketing mix (Bellmunt & Deltoro, 2005; Constantinides, 2006; Goi, 2009). Nonetheless, there is consensus in mainstream marketing on which version of the marketing mix is applicable to what (4Ps and 7Ps), but there is debate over the application of the standard 4Ps in SM.

Generally, the desire is for the development of a marketing mix capable of reflecting the long-term commitment required in behaviour change (Gordon, 2011; Lefebvre, 2011). However, there is still no consensus on the number and actual variables or elements in the SM mix. For instance, Peattie & Peattie (2003) suggest that this mix should include social propositions, cost of involvement, accessibility, social communication, interaction and competition, while others (Lefebvre, 2011) replace the 4Ps with design and features, incentives and costs, access and opportunities, communications and experience.

Despite the theoretical, pedagogic and practical debates about the marketing mix (Bellmunt & Deltoro, 2005) it remains an important planning aid in both mainstream and social marketing (Goi, 2009). However, context-specific variations need to be taken into consideration (Donovan, 2011), hence the need for empirical evidence about the marketing mix and its application in specific contexts. This evidence is required to either adjust or replace the marketing mix with a new concept, theory or framework that can respond better to the needs of the marketing environment, which is characterised by emerging products and complex consumer behaviour (Bellmunt & Deltoro, 2005; Constantinides, 2006; Goi, 2009).

2.3.3 The 'Product' in Social Marketing

The offer (i.e. product) in the social market is the welfare of the individual and society, commonly referred to as 'social good or benefit' and is reflected by the various definitions of SM. In many cases, SM deals with an offer, which is intangible or abstract in nature (i.e. behaviour change). Mainstream marketing classifies intangible offers as service products (Miller & Foust, 2003). Therefore, the emergence of a service-dominant approach to SM (Luca et al., 2016) is not peculiar. Similar, to service offers, some behaviour change interventions may require both the intangible product (Khirbat, 2017; Miller & Foust, 2003).

For example, interventions to increase uptake of modern contraceptives -in part, require both contraceptive counselling service (intangible product) and readily available contraceptives (tangible product). This is supported by different studies that report quality of FP services (Tessema, Gomersall, Mahmood, & Laurence, 2016), supply chain and method related factors (Mukasa, Ali, Farron, & Weerdt, 2017) as determinants of mCPR.

Therefore, identifying and defining the 'product' or 'offer' in a SM intervention is important. However, this maybe complex in the social market, which requires different interventions at the individual, community and national level. These levels are known as streams of social marketing.

2.3.4 Streams of Social Marketing

One of the reasons the SM approach to social and behaviour change is increasingly accepted is the understanding that sustained behaviour change requires change at three levels. These levels reflect the target group: upstream, midstream and downstream. Upstream SM targets policy makers in order to influence policy formulation, priorities and resource allocation, while midstream SM targets the community, and downstream SM targets the individual (French, 2012).

These streams of SM are applicable to FP interventions because fertility decisions and behaviour (downstream) are influenced by the social context (midstream)- social interaction, norms and beliefs, as well as macro factors (upstream) such as supply chain, service quality and method mix. Upstream SM is important because it also deals with policy change, political will and resource commitment by the government and donors (Ahmed et al., 2019).

Although the three streams of SM interventions are well defined, the optimum relative level of focus on a stream or combination of streams remains unclear. For example, some writers such as Truong (2014) and Wood (2016) advocate for more research in upstream SM.

On the other hand, in the past emphasis has been primarily on downstream SM, and this continues to be a focus, although there is now growing recognition of the need to also consider upstream and midstream factors (Andreasen, 1994; El-ansary & Kramer, 1973). Nonetheless, extant work shows that the majority of programs continue to take a downstream approach (Almestahiri, Rundle-Thiele, & Parkinson, 2017; David & Rundle-Thiele, 2018; Truong, 2014) even though social problems occur in a complex web that involves a wider environment (community and policy).

The need for change to occur at the three levels is unquestionable. However, it is difficult to measure or observe results from interventions at all these levels and this attracts criticism (Robinson, 2009). This is even more complex at the downstream level that involves intangible factors such as norms. Eagle et al., (2011) explain that behaviour change interventions often do not yield explicit results in the short term. This is because behaviour change is gradual and sustainable behaviour change is not easy to attain.

Therefore, the strategies, efforts and results of SM tend to vary depending on the stage of the intervention (Table 4). SM efforts need to go beyond motivating people to want to change their behaviour, to empowering them to change. Hence, the call not only to foster equity by using all three streams of SM (Lagarde, 2014) but to unlock the potential of upstream (Gordon, 2013). Borden, Cohn, and Gooderham (2018) recommend transitioning to upstream whenever downstream efforts are found to be insufficient.

Table 4: Change sought at each level of effectiveness

Level	Key changes sought	Result level
Awareness	Increase in awareness of issue	Individual changes in awareness
Engagement	A change of attitude and contemplation of behaviour change Behavioural responses to individual programs	Individual changes in attitude and responses to programs
Behaviour	Individual behaviour change	Individual changes in behaviour
Social Norm	The desired behaviour change has permeated widely and sustainably and is therefore maintained	Normative changes in attitude and behaviour
Well Being	The desired behaviour change has resulted in an improvement in quality of life for individuals and society	Changes in social and environmental outcomes

Source: Eagle et al. (2011, pg. 60)

2.3.5 Theory and Framework use in Social Marketing Interventions

Within SM circles, it is acknowledged that there are some myths, misunderstandings and little use or under reporting of theory application in SM interventions (Donovan, 2011; Luca, & Suggs, 2013; Rundle-Thiele et al., 2019; Stead et al., 2007). Inconsistency in the use of theory as guiding frameworks for informing and designing interventions or programs is acknowledged and is not taken lightly because it impedes the accumulation of evidence required to sustain investment in SM (Firestone et al., 2017). This challenge has been taken seriously among social practitioners and scholars who have started presenting evidence of the effectiveness of theory-informed SM interventions or programs (Gordon et al., 2016).

Despite the current limited evidence of theory-informed SM interventions or programs, there is a sound evidence base of the use of theory in some SM programs (Firestone et al., 2017; Stead et al., 2007). This evidence has justified the continued use of an SM-approach to social and behaviour change in both developed and developing nations. Noticeably, not only is there a push towards the development and use of theory in SM (Rundle-Thiele et al., 2019) but a framework has been proposed to guide practitioners on selecting and using theory (Manikan & Russel-Bennett, 2016). This is because the scaling up and consistent use of theory in the design of SM programs and interventions will ease not only the evaluation and replication of effective interventions but also advance the SM thought and practice which will consolidate and fortify this area of marketing.

2.3.6 Paradigms and Schools of Thought

When SM emerged in the early 1970s, there was controversy on what it was, its value and whether it was anticipated to contradict other social change approaches such as health education and social communication (Ling, Franklin, Lindsteadt, & Gearon, 1992). However, from the post-emergence years or its early stage of development to date, it has proven to be a useful and increasingly preferred approach to social and behaviour change compared with information provision-based activity (Firestone et al., 2017; Fox & Kotler, 1980; French, 2009; Tackeray & Neiger, 2000). Even critics such as Robinson (2009) acknowledge its merits but argue that it should not be taken as the only approach to social and behaviour change.

The field of SM has matured (Kassirer et al., 2019; Peatti & Peatti, 2003). A number of scholars and practitioners (Andreasen, 2003; Gordon & Gurrieri, 2014) have documented the history and stages of its development. Gordon and Gurrieri (2014) classify the development or transition of SM into three phases; traditional, social ecologist and critical.

The traditional or emergence phase is characterised by the rigid application of the traditional marketing mix (4Ps) while the social ecologist or mid phase is associated with the recognition of the complexity of social problems which render a traditional approach ineffective because of the wider environmental factors such as social norms, policy and resources. And the critical or mature phase (Gordon, 2011) is associated with the need to both broaden and fortify SM concepts and ideas. However, there still remains a debate on the approach towards the application of mainstream marketing theory or concepts to SM. Hence the two schools of thought, convergent and traditional.

Glenane-Antoniadis et al. (2003) explain that the traditional school of thought places emphasis on the SM benchmarking criteria and the marketing mix- i.e. rigid approach of replicating mainstream marketing theory and concepts. While the convergent school accommodates the views of social ecologist and critical SM. This approach strikes a balance between the need to adapt and use key mainstream marketing tools such as the marketing mix, segmentation and targeting, the use of behavioural theories and the need to broaden SM to include transformative (Lefebvre, 2011) and service or systems thinking (Luca et al., 2016).

In spite the different schools of thought, there is consensus on the importance of the marketing mix, which remains a fundamental concept in both mainstream and SM. This is because the marketing mix is used for planning and executing marketing strategies and remains a dominant paradigm in mainstream marketing (Bellmunt & Deltoro, 2005; Constantinides, 2006). Additionally, there is a call to up-scale use of theory in SM interventions and the need to develop subdiscipline specific theoretical and conceptual frameworks (Lefebvre, 2000). This is because behaviour change is complex, requiring the use of a mix of theory and concepts from mainstream marketing and other disciplines such as sociology, anthropology and psychology (Glenane-Antoniadis, Whitwell, Bell, & Menguc, 2003; Mabry & Mackert, 2014; Stead, Gordon, Angus, & McDermote, 2007).

More importantly, SM is a promising approach to solving the 21st century's social problems, especially those increasingly described as "wicked problems" (Andreasen, 2003; Gordon et al., 2016). Gordon et al. (2016) explain that these social problems are 'wicked' because they are caused by multiple and interlocking factors and change over time, usually for the worse. Therefore, wicked problems may render a traditional SM approach ineffective (Gordon & Gurrieri, 2014). Hence, the move towards a convergent SM approach (Glenane-Antoniadis, Whitwell, Bell, & Menguc, 2003; Lefebvre, 2011; Luca et al., 2016) which allows SM interventions to bring about change at individual, community and national level

(i.e. downstream, midstream and upstream). This move confirms earlier predictions that there would be some challenges in applying mainstream marketing principles to social problems (Bloom & Novellie, 1981; El-ansary & Kramer, 1973).

2.3.7 Conclusion

First, like mainstream marketing, SM adopts a transdisciplinary approach. The multidisciplinary approach of SM and accumulating evidence of its effectiveness is driving its widespread application in social and behaviour change interventions.Second, there is a difference in the application and development of SM as a subdiscipline in developed and developing nations. In developed countries such as Australia, SM interventions are common in both environmental and health problems – especially lifestyle diseases and substance abuse (Kubacki, Rundle-Thiele, Pang, & Buyucek, 2015; Mcleod, Insch, & Henry, 2011).

In developing countries such as Zambia, SM interventions and programs focus more on reproductive health, the HIV/AIDS epidemic (Population Services International, 1999; Rossen & Meekers, 2007) and family planning (Chapman et al., 2010; Kavle, Eber, & Lundgren, 2012; Prata, Weidert, Fraser, & Gessessew, 2013). Despite this, the need to achieve the "public good" remains fundamental in both cases (Lefebvre, 2011). Third, much of the research in SM is by American and British scholars in developed countries with a focus on downstream (Truong, 2014; Truong, Garry, & Hall, 2014). Research on other macro actors such as policy makers (upstream) and interest groups (midstream) must be encouraged (Kubacki & Rundle-Thiele, 2013; Truong, 2014; Wood, 2016).

Fourth, a common critique and acknowledged weakness of SM is the inconsistency in the use of theory in designing interventions. This situation makes it difficult to evaluate and replicate interventions. Nonetheless, Lefebvre (2011) confirms that it is now showing signs of maturity which among other things can be inferred from the efforts to develop, use and report theory application. Scholarly work has also emerged with more than 93 doctoral dissertations between 1971 and 2013 (Truong et al., 2014). Finally, although there is a consensus on using a mix of basic marketing theory and those from other disciplines, the debate on traditional or convergent applications of marketing theory to SM continue. For example, to date there is no consensus on the number or elements of the SM mix. However, the principle of "mixing" elements is nearly universally accepted.

2.4 Family Planning

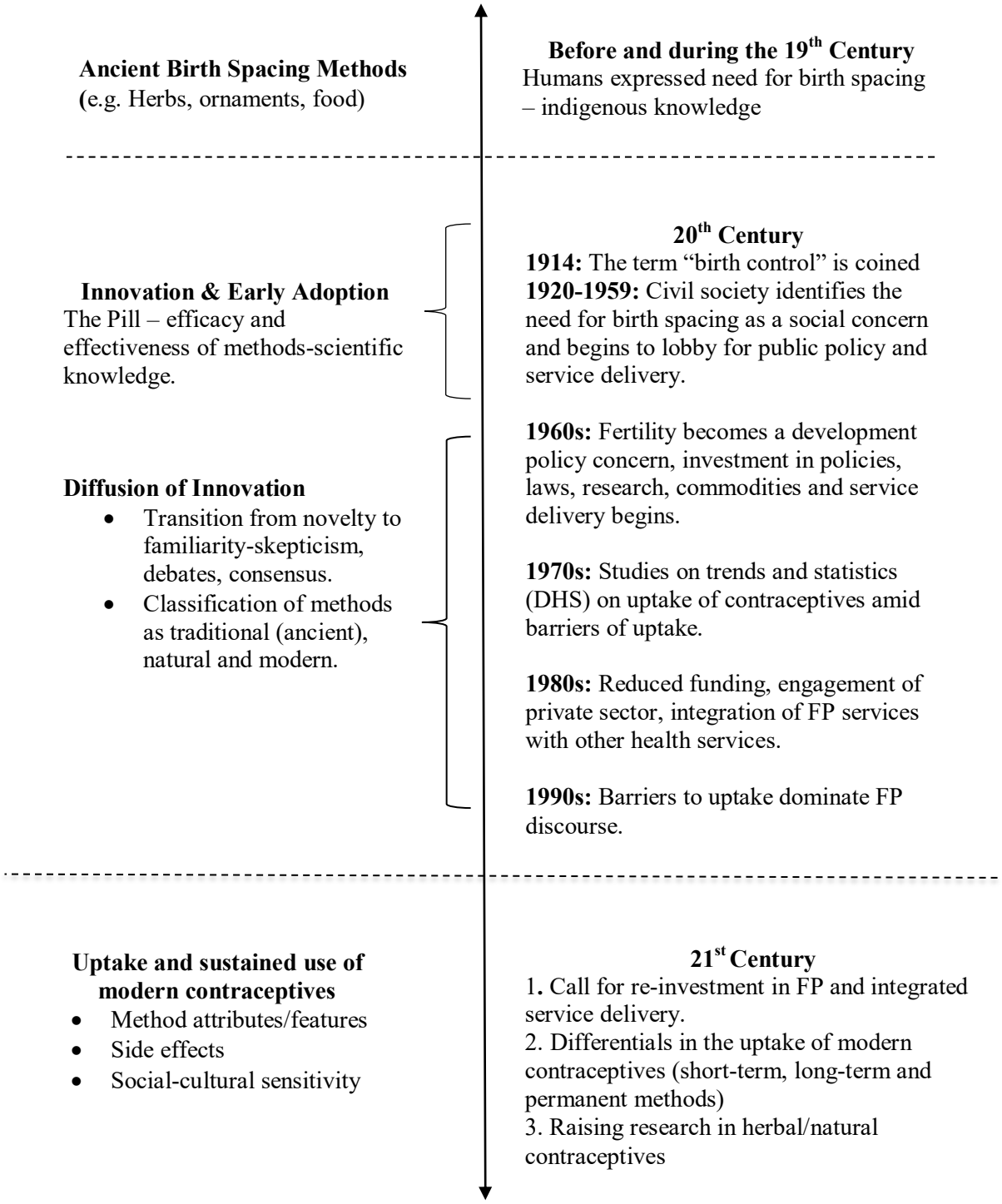
The idea of child or birth spacing is neither new nor disputed in any society, even in countries where "being fruitful" or "multiplying" is socially, politically or religiously proclaimed (Planned Parenthood Federation, 2012). This is because reproduction is not the only reason for copulation. The need to prevent or delay pregnancy can be traced as far back as 1850BC when various indigenous knowledge-based mechanisms were used (Robertson, 1990). Early contraceptive methods across the world can be classed into behavioural techniques, use of plants with medicinal value, and devices (Cambell & Hodoglugil, 2006).

The behavioural techniques include abstinence, withdrawal, delay (coitus reservation) or interruption of ejaculation (coitus interruptus). Indigenous or native knowledge about medicinal herbs and plants such as silphium, thyme, parsley or a mixture of honey, pepper and alum to make sponges as contraceptives or to induce abortion (infanticide) was common (Jaravaza, 2013; Quarini, 2005). Some of these plants or mixtures are poisonous or harmful. Barrier methods such as cervical sponges and condoms made from fish bladders or intestines were also used (the latter being the early attempts in the development of the present-day male condoms). Over time, contraceptive methods have evolved and the use of modern contraceptives has become a global agenda. Figure 15 shows the timeline of the global FP agenda to date. Although clinically tested FP methods such as intrauterine devices (IUD), condoms, diaphragms and cervical caps were invented in the 1830s, FP only become a development policy concern in 1960.

FP policies have evolved beyond the impact on economic development (Berelson, 1969; Seltzer, 2002) to include maternal and infant mortality, women's empowerment and education, and environmental sustainability (Cleland, Conde-Agudelo, Perterson, Ross, & Tusi, 2012; Ezeh, Bongaarts, & Mberu, 2012; Speidel, Weiss, Ethelstin, & Gilbert, 2009; Tusi, 2001). This broader approach to FP policies in the development agenda is supported by the evidence of FP programs in attaining Sustainable Development Goals (Canning & Schultz, 2012; Cleland et al., 2006; Stabird, Norton, & Marcus, 2016). Furthermore, a human rights-based approach to FP policies and programs has emerged to manage the risk of coercive FP approaches (Cottingham, Germain, & Hunt, 2012).

The diffusion of the idea and use of modern birth-spacing methods has been gradual but is now almost universal. Users and non-users often cite method-related reasons such as health concerns, side effects, ease of use and convenience for discontinuation or non-use respectively (Blackstone et al., 2017; Zambia Statistics Agency et al., 2019). Hence, the need to invest in new-generation contraceptives and improve or modify existing ones such as the

Sayana Press®, which is projected to increase uptake in high fertility Sub-Saharan countries such as Zambia (Tanvi et al., 2019).



Source: Author generated based on literature review

Figure 15: Timeline for the Global Family Planning

To date, desirable population growth rates for different nations across the world have been achieved through appropriate and context-specific FP policies. This is because both high and lower fertility have a wide range of consequences, hence the need to continue investing in FP programs and initiatives (Cleland et al., 2006; Ezeh et al., 2012). Unfortunately, from about the mid-1990s, international funding for FP programs was reduced because of competing health priorities such as HIV/AIDS and a claimed weak link between rapid population growth rate and economic growth (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). Nevertheless, donors such as the Bill and Melinda Gates Foundation have been re-advocating for investment in family planning efforts as one of the best investments that a country can make because the decision about when and whether to have a child or not leads to more productive lives (Advance Family Planning & PAI, 2017; United Nations Population Fund, 2013).

In addition, much of the 21st century evidence suggests that there is a strong link between rapid population growth rate and socioeconomic development (United Nations Department of Economic and Social Affairs, 2015; United States Agency for International Development, n.d.). Phumaphi (2011) argued that if the high fertility rate, especially in developing countries, is not addressed, economic growth will be constrained because a rapidly growing labour force requires a higher pace of job creation. Hence, the call for governments to make family planning a priority in their developmental plans (Habumuremyi & Zenawi, 2012; Starbird, Norton, & Marcus, 2016).

Correspondingly, Blackstone et al. (2017) calls for reinvestment in FP programs that can address the various community, system and political challenges or barriers to FP. In pushing the FP agenda forward, it is important to understand as noted earlier that there are two distinct forces that determine the uptake of contraceptives (Akintade, Pengid, & Pelzer, 2011; Eltomy, Saboula, & Hussein, 2013; Feyistan & Ngwale, 2012). On one hand, the supply (hardware) force is shaped by factors such as policy, access, provider bias, availability etc. In the same way, demand (software) for contraceptives is influenced by social-cultural norms, preferences, beliefs, perceptions. Some of these factors in either the demand or supply side are visible and easy to measure while others are not.

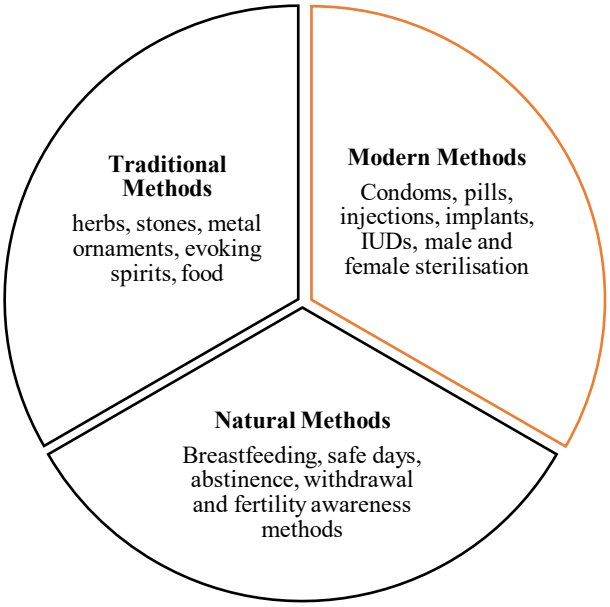
The emphasis in this thesis is on the "software" aspect because fertility decisions are complex due to the various invisible factors and actors at play. SM has been found to be useful in managing the invisible factors but lack of the application of validated theory or frameworks impede the replication of such interventions. Furthermore, the focus on 'software' in the FP market is in line with the need for more research to balance the available

wealth of evidence on “FP hardware” research (Glanz & Bishop, 2010). Similarly, the International Planned Parenthood Federation (2011) stress the importance of understanding both demand and supply factors in order to devise appropriately balanced FP programs, projects and policies aimed at attaining the desired fertility rate for different populations.

2.4.1 Contraceptive Methods

The different methods that are used to prevent or avoid pregnancy (i.e. contraception) are categorised as traditional or folk, natural and modern contraceptives. Traditional or folk methods are particular to cultural or social groups as they rely on transfer of the technique or mechanism through indigenous knowledge systems (Jaravaza, 2013). Often these are not documented but passed on using the indigenous knowledge system. These include medicinal herbs, foods, evoking of spirits, wearing of stone and metal ornaments etc. (Shah, 2005).

Natural methods can be said to be in two categories because some rely on scientific knowledge (e.g. fertility awareness method) while others are based on indigenous knowledge (e.g. withdraw, periodic abstinence etc.) relating to the modification of sexual behaviour to avoid pregnancy (Callmag et al., 2020). Recently, the WHO updated its list of contraceptives to include fertility awareness methods, namely, standard days, basal body temperature, two-day and symptom-thermal method (World Health Organisation, 2018). When used correctly and consistently, fertility awareness methods can be 98-99 per cent effective. Other natural methods include exclusive breastfeeding, withdrawal and rhythm (safe days) (Freundl, Sivin, & Batár, 2010). Modern contraceptives include condoms, pills, injectables, implants and sterilisation (Figure 16).



Source: Adapted from Shah (2005)

Figure 16: Categories of contraceptive methods

Natural methods appeal to persons or population segments that have strong religious beliefs or that are sceptical of modern contraceptives because of reported side effects (Rossier, Senderowicz, & Scura, 2014; Sharon, Ahmed, May, & Soucat, 2010). The fear of side effects has become a strong barrier to the uptake of modern contraceptives and experience of side effects is the main reason for discontinuation. For example, in Australia – a developed country, it was established that a considerable proportion of respondents reported using natural methods – the fertility-based method (Freilich et al., 2017). The challenge with natural methods is the high level of commitment required and failure rate due to incorrect use or practice (Audu, Yahya, & Bassi, 2006; Freundl et al., 2010; Polis et al., 2016). For persons who wish to use these methods, smartphone apps have been developed to enhance effective use (Freilich et al., 2017; World Health Organisation, 2018). Table 5 shows a list of contraceptive methods and their failure rate. Natural and barrier methods are the least effective while modern contraceptives are the most effective.

Table 5: Failure rate of different contraceptive methods

Method	Description	Failure rate
Levonorgestrel intrauterine system (LNG IUD)	Long-term acting hormonal reversible method	0.4%
Copper T intrauterine device (IUD) (many variations)	Long-term acting reversible method	0.8%
Implant	Long-term hormonal reversible	0.01%
Injection	Short-term acting hormonal reversible method	4%
Combined oral contraceptive pills (many formulations)	Short-term acting reversible method	7%
Progestin only pill	Short-term hormonal acting reversible method	7%
Patch	Short-term reversible method	7%
Hormonal vaginal contraceptive ring	Short-term mixed hormonal and barrier reversible method	7%
Diaphragm or cervical cap	Barrier reversible method	17%
Sponge	Barrier reversible method	14%
Male condom	Barrier reversible method	13%
Female condom	Barrier reversible method	21%
Spermicides	Barrier reversible method	21%
Fertility awareness-based methods	Natural method	2-23%
Withdrawal	Natural method	17%
Periodic Abstinence	Natural method	19%
Female Sterilisation — Tubal ligation or "tying tubes"	Permanent or Nonreversible	0.5%
Male Sterilisation–Vasectomy	Permanent or Nonreversible	0.15%

Source: CDC (2020) and Bradley et al. (2019)

In Africa, reported intent to use modern contraceptives is high and people prefer birth spacing to limiting births (Aninyei et al., 2008; Asante-Sarpong, 2007). Short-term acting reversible methods (e.g. pill and injectable) are more prevalent than long-term reversible contraceptives (e.g. implants) . Permanent methods (e.g. sterilisation) are less often used (Tsui, Brown, & Li, 2017; Ugaz, Chatterji, Gribble, & Mitchel, 2015; United Nations, 2017; United Nations Department of Economic and Social Affairs, 2015). The influence of social and cultural factors in the uptake of modern contraceptives is undisputed.

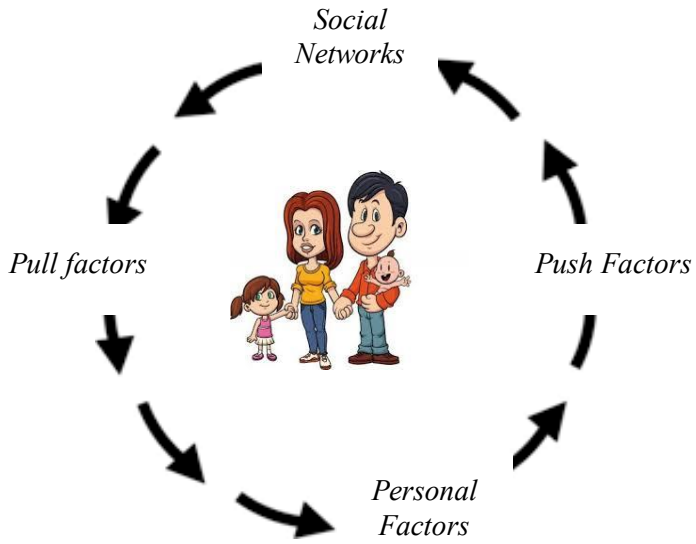
Condoms are in many cultures associated with the social connotation of unfaithfulness or infidelity (Akintade et al., 2011). As a result, condoms are hardly used by married couples (United Nations, 2017) even when they have minimal-to-no side effects and offer dual functionality – contraception and reduction in the risk of sexually transmitted disease such as HIV. The prevalence of short acting methods, high chances of desired fertility not falling below four births per woman, and ineffectiveness of implementing fertility desires due to various factors (e.g. differences in partner/spouse fertility desires, social network

influence and social-cultural norms) may explain the variance between actual and intended fertility in many African communities (Casterline & Agyei-Mensah, 2017).

2.4.2 Fertility Decisions

Fertility decision-making is not only complex but also challenging to comprehend. In a project funded by the Australian government and implemented in Australia, Weston, Qu, Parker, and Alexander (2004) pg. xiv attempted to "get inside people's heads with the hope of tapping into the experience of the decision-making process of having children or not". Like many other studies, the result was the identification of the factors at play in the fertility decision, in this case secure, stable and adequate income and a partner.

Across the world, research shows that factors such as availability, access, cost, provider bias, provider-imposed restrictions, potential side effects, fertility preferences and the consent of the spouse or partner are essential in the fertility decision. These various factors explain *what* might be considered but not *why* or *how* the fertility decision is arrived at. Figure 17 summarises what extant research on fertility decisions has established.

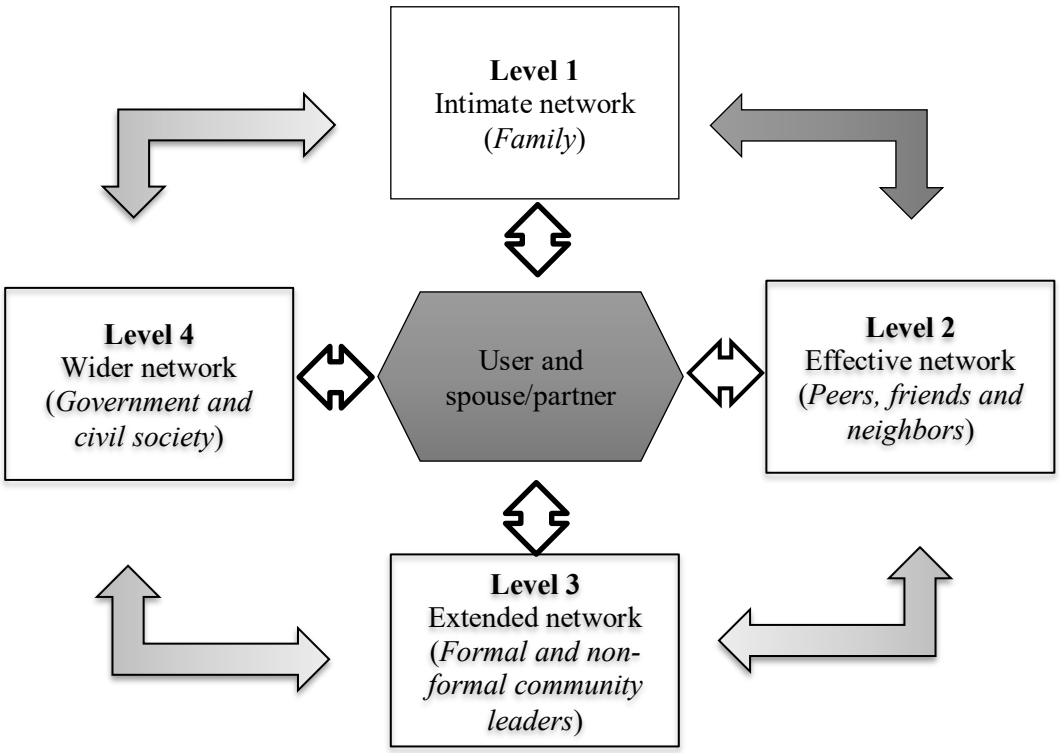


Source: Author generated based on extant literature

Figure 17: Factors that affect fertility decisions and behaviour

A distinction of the factors that affect the fertility decision and behaviour is fundamental. This is because some of the factors point to actors or persons. Thus, these factors can be classified as factors and actors. The actors include the couple, service providers and social networks. The aspect of actors is important because it reflects differences in

approaches to fertility decisions among societies. For example, in many western societies, the fertility decision is dependent on the user and the partner or spouse (the individualist approach). In most African and Asian societies, a wider social network influences the decision. This social network web refers to extended family, peers and community leaders (Bernardi & Klarner, 2014; Colleran & Mace, 2015; Kohler, Behrman, & Watkins, 2001). This phenomenon is crucial for societies where social interactions provide the platform for diffusion of ideas and practices because these webs may be hidden yet interdependent (Behhrman, Khohler, & Watkins, 2002). Through the three streams of SM, the social network web can be distinguished into different levels which are evident from the empirical data on health behaviour change including family planning (Harlan, Sullivan, & Hailegiorgis, 2013; Latkin & Knowlton, 2015). Figure 18 illustrates the levels of social network influence based on FP interventions.



Source: Adapted from Lundgren, Mohamed, Diakite, and Buesseler (2011) and Latkin and Knowlton (2015)

Figure 18: Levels of social network influence

In African societies where external influence on fertility decisions and behaviour is crucial, it is imperative to distinguish the three levels of influence: immediate (e.g.

spouse/partner and relatives); community (e.g. traditional and religious leaders); and national (e.g. government and civil society). Understanding and distinguishing these different levels of social networks is important because the levels reflect the different types of support and roles. This is because the size and density of female social networks in the fertility decision differs (Kohler et al., 2001).

For instance, emotional support can be obtained from the husband, friends and mother, while cognitive support may be obtained from the mother-in-law. However, practical support comes from sisters-in-law and co-wives (where polygamy is practiced). Therefore, it is prudent to go beyond mere identification and recognition of the various players in the fertility decision to establishing the dominant ones and the role that they play (Adewuyi & Ogunjuyibe, 2003; Colleran & Mace, 2015; Yee & Simon, 2010). This is because social network approval can affect (positively or negatively) the pace of the uptake of modern contraceptives.

The extended network (level three – refer to Figure 18) is comprised of formal and informal leaders or mentors; the informal ones can easily be overshadowed. For example, undergoing pre-marriage counselling (religious/traditional) is a social/cultural requirement in Zambian society. However, the potential influence of marriage counsellors on fertility decisions or behaviour has not been reported in any of the extant studies in Zambia. Therefore, exploring the potential influence of marriage counsellors in Zambian society is important because they play an active role in mentoring couples about married life (Chiboola & Munsaka, 2016; Mwanza, Phiri, Muyangana, & Chibamba, 2019).

In a study conducted by Mostafavi, Mehryar, and Agha (2006) in Iran, findings indicate that men's attitudes and beliefs about FP methods have an impact on the uptake of modern contraceptives. Similarly, in Zambia, differences in fertility preferences between husband and wife can be a source of disagreement in the fertility decision-making process (Ashraf et al., 2014). When couples fail to reach an agreement, women tend to default to "situation adaptation behaviours" such as the use of concealable contraceptives (e.g. implants and injectable). Such behaviour often comes with psychosocial costs such as marital tension and stress. These studies (Bankole & Singh, 1998; Bernardi & Klarner, 2014; Lundgren et al., 2011) show that fertility decisions and behaviours occur within the social interaction process, thereby attracting external influence and pressure from family and the community.

Although fertility decisions are unique and highly interactive in nature, research shows that social networks mainly exert negative influence and pressure. An interesting case is Mali where, in some instances, co-wives and mother in-laws encourage and help to conceal

the use of contraceptives from husbands who prefer more children (Lundgren et al., 2011). Generally, husbands or male partners have a dominant influence in decision-making (Stein, Willen, & Pavetic, 2014). Therefore, negotiation and communication form important steps in the fertility decision-making process.

Equally, partner and community approval are important. For this reason, it is important to design fertility behaviour change interventions and programs that respect the social and cultural structures and systems in a society (Keller et al., 2012). Social Marketing approaches to FP would enable the design of context-specific FP programs- which target the spouse/partner, traditional and religious leaders and extended family especially in rural communities where influence is stronger than in urban areas.

2.4.3 Barriers to the uptake of Modern Contraceptives

The FP agenda continues to be challenged by numerous and divergent barriers to the uptake of modern contraceptives in high-fertility regions and the world at large. Campbell, Sahin-Hodoglugil, and Potts (2006, pg. 87) define FP barriers as "constraining factors that prevent women from making a decision on whether and when to have a child despite the realistic availability of the technologies and correct information needed for decision-making". Barriers to modern contraceptives are not only numerous and divergent but also population- or context-specific. Even if barriers to modern contraceptives are more pronounced in regions where uptake of modern contraceptive is low (Africa and parts of Asia), barriers also exist in countries and regions where uptake is high, such as Europe and Canada.

Despite attempts to develop a classification system for the numerous and divergent barriers, none has yet been developed. This is because some barriers tend to fall into multiple categories. For example, Najafi-Sharjabad, Yahya, Rahman, Hanafiah, and Manaf (2013) classify them as cultural attitudes, lack of knowledge, sociodemographic and health-service barriers. Nielsen, Nielsen, Butler, and Lazarus (2012) group them in a similar way as social-cultural issues, health-care issues and individual issues. Bertrand, Hardee, Magnani, and Angle (1995) cluster them as access, quality of care and medical barriers and Chandra-Mouli, McCarraher, Phillips, Williamson, and Hainsworth (2014) simply list the barriers as access, policies and laws that prevent adolescents from accessing FP services, health worker bias and limitations, unfriendly service providers, sporadic contraceptives stock outs, social pressure and stigma. Haider and Sharma (2013) present a list of the barriers as cultural and societal pressure on women, social economic status, financial and access.

Clearly, the categorisation of the various barriers listed by different authors is blurred. In this thesis, generic words are used to classify these various and divergent barriers into five categories: service delivery (e.g. quality of service, provider bias), information and knowledge (e.g. how to use the methods and how to manage side effects), contraceptive method (e.g. mode, frequency), normative environment (e.g. religion, norms, beliefs, traditions etc) and social network and relationship dynamics (e.g. spouse/partner, parents, friends, in-laws) (Figure 19).

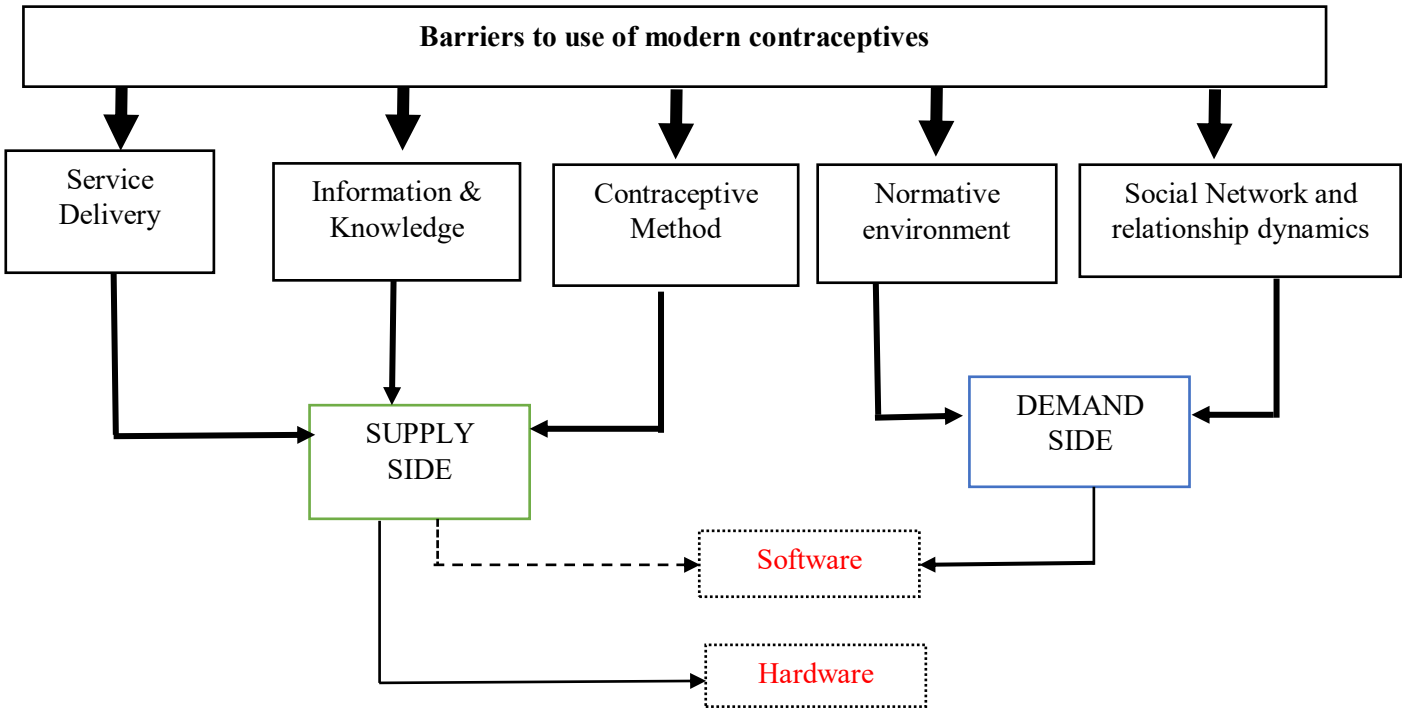


Figure 19: Proposed classification of barriers to the uptake of modern contraceptives (author generated)

Barriers are either "hardware" e.g. physical access, availability and adequate FP health personnel (i.e. tangible) or "software" e.g. sociocultural norms, religion, social network pressures and fear of side effects (i.e. intangible). In high fertility and developing regions such as Sub-Saharan Africa, it is common to encounter a mix of hardware and software barriers (Eltomy et al., 2013; Haider & Sharma, 2013).

Likewise, in low fertility and developed countries such as Australia, the US and Sweden, barriers such as the high cost of contraceptives, mode of administration of the contraceptives especially where a medical procedure is required, and fear of side effects are evident (Dennis & Grossman, 2012; Garrett, Keogh, Kavanagh, Tommay, & Hocking, 2015;

Hellstrom, Danielsson, & Kallner, 2019). Therefore, barriers to modern contraceptives manifest in different forms be it in low, middle or high-income countries. While some of the barriers seem to be decreasing in importance, others will emerge depending on the context or population.

Across the world, side effects have been recognised as a strong barrier to the uptake and sustained use of modern contraceptives. This concern has spurred interest in natural methods and fertility awareness methods but these alternative methods are yet to be fully integrated in the method mix especially in high-fertility regions of Sub-Saharan Africa.

2.4.4 Fertility Transition in Africa

Fertility transition is the phased process by which a country's population's fertility rate shifts from high fertility to the recommended replacement level of 2.1 births per woman (Bongaarts, 2008; Bongaarts & Casterline, 2012). Similarly, Mason (1997) defines fertility transition as the long-term decline of fertility from four or more to two or less (≥ 4 to ≤ 2) births per woman. Notably, in both definitions, the fertility replacement rate is key: the required fertility rate to ensure that a given population does not become extinct in the long-run or grow explosively (Striessnig & Lutz, 2013).

However, this suggested population replacement rate of 2.1 births per woman as a universal target of fertility rate has been challenged (Craig, 1994; Gietel-Basten & Scherbow, 2019; Mauldin & Ross, 1994; Striessnig & Lutz, 2013). For example, Gietel-Basten and Scherbow (2019) argue that taking the population replacement fertility rate of 2.1 births/woman as the target for FP programs across the world, may not be helpful because countries differ in terms of economic development and demographic factors. Despite different views about the replacement fertility rate, it provides a basis for nations to pursue FP programs and policies to either increase or reduce population growth rates. For example, Australia is in danger of entering an era of declining productive human labour due to its low fertility rate of 1.74 births per woman (Wright, 2019). Conversely, Zambia faces the risk of unsustainable population growth due to its high fertility rate of 4.7 births per woman (Zambia Statistics Agency et al., 2019).

Africa's population growth rate is poised to determine the future global population (Kebede, Goujon, & Lutz, 2019). This has attracted the interest and attention of policy makers in Africa's fertility transition because of its implications on social, economic and environmental development (Bongaarts, 2017; Bongaarts & Caterline, 2013). Even back in the 1990s Caldwell et al. (1992) projected that the fertility transition of Africa would be

different from other developing regions such as Asia and Latin America. Correspondingly, Bongaarts and Caterline (2013) asked the question *Fertility Transition: Is Sub-Saharan Africa Different*? While Strulik and Vollmer (2015) questioned whether fertility transition is a global phenomenon with particular reference to Sub-Saharan Africa.

There are two reasons why the fertility transition of the Sub-Saharan region is being debated. First, African countries are characterised by generally high birth intervals and unmet need – the proportion of women who do not want to have children but do not use any contraceptive (Bongaarts & Casterline, 2012; Moultrie, Sayi, & Timaeus, 2012). Moultrie et al. (2012) argue that the prolonged birth intervals among the African population are a sign of either underlying reasons for postponing births or under reporting of the use of other FP methods such as fertility awareness, natural and traditional methods. Bongaarts and Casterline (2012) assert that postpartum behaviours (abstinence and breastfeeding) are well documented in African countries, which may explain the high birth intervals. Equally, Rossier et al. (2014) argue that natural methods (e.g. periodic absence, breastfeeding, withdrawal and safe days) are used and may explain why women who do not want to have children are not using any modern contraceptive.

Second, there is a possibility of Africa's fertility rate stalling at about five births per woman (Bongaarts & Casterline, 2012). According to Bongaarts (2008) fertility stall is a period of no significant or marginal change in the fertility rate of a country undergoing a fertility transition, before it reaches the end of its transition. A fertility of rate of five births per woman is substantially higher than the replacement fertility rate of 2.1 births per woman. Thus, African societies are described as pronatalist, i.e. they advocate/support high birth rates. Casterline and Agyei-Mensah (2017) add that Africa's DHS data suggest an emerging desire to limit family size but the fertility rate is not likely to decline below four births/woman and neither will it reach the population replacement rate.

It is conceivable that countries in Africa are at different stages of the fertility transition process (i.e. no transition, early transition and mid transition) and some are exhibiting fertility stalls (Bongaarts & Casterline, 2012; Kebede et al., 2019; Schoumaker, 2019). Therefore, Bongaarts (2017) concludes that Africa's transition is later, earlier, slower and higher than the previous transitions in other developing regions. Similarly, Casterline and Agyei-Mensah (2017) conclude that the intra variations within Africa do not allow generalisation. However, there seems to be no consensus on whether Africa's fertility transition is indeed peculiar or simply showing a mix of different fertility transition

characteristics, hence the need to continue the debate and research on this matter (Bongaarts & Casterline, 2012; Schoumaker, 2019; Strulik & Vollmer, 2015).

2.4.5 Conclusion

Family planning is a widely researched topic across different disciplines and the findings are not divergent. First, humankind has always appreciated the concept of child spacing through different mechanisms. FP methods are classified as traditional, natural and modern. Unfortunately, modern methods have been greeted with suspicion especially in Africa where politicians initially and in some cases still perceive modern FP as a "white man's effort to control the growth of the black population" (Solo, Luhanga & Wohlfahrt, 2005, pg.vii). Among other factors, this may explain why political commitment (and therefore financing) to FP in many high-fertility countries remains weak to date (Cleland et al., 2006; May, 2017) and may explain why universal awareness about FP does not guarantee uptake of modern contraceptives.

Second, fertility and population growth rates are linked to social economic development (Cleland et al., 2006; Furuoka & Munir, 2011; Rosenzweig, 1987; Stabird et al., 2016). However, the pace of increased uptake of family planning globally has not been as anticipated, especially in many low- and middle-income settings. Partly, this is attributed to the initial underestimation of the complexity of fertility behaviour.

The challenge in measuring change in fertility behaviour, which is influenced by invisible supply and demand forces, led to reduced attention on, and funding of FP programs in the mid-1990s. This resulted in the description of the FP in the 21st century as an unfinished agenda (Cleland et al., 2006). Thus, in addition to the renewed momentum, Stabird et al. (2016) advocates for reinvestment in FP policy and programs without which it would be difficult to attain Sustainable Development Goals (SDGs) especially in resource limited settings.

Third, attaining a sustainable fertility rate remains a worldwide social concern. However, the adoption of the population replacement fertility rate of 2.1 births per woman for different populations remains contested (Gietel-Basten & Scherbow, 2019; Mauldin & Ross, 1994; Striessnig & Lutz, 2013). Nonetheless, this rate forms the basis for different governments to pursue appropriate FP policies and programs to either increase or reduce population growth rates.

Fourth, Social Marketing has been found to be useful and effective in FP programs (Dholakia & Dholakia, 2014; Firestone et al., 2017; Roberto, 1972). SM provides a

systematic and objective way of planning FP interventions (Roberto, 1972) when overcoming the intangible (software) barriers, especially in rural Africa (Chapman et al., 2010; Molhatra & Bhat, 2014). This is because barriers to the uptake of modern contraceptives are numerous and divergent (Ackerson & Zielinski, 2017; Blackstone et al., 2017; Gele, Musse, Shrestha, & Qureshi, 2020). Some of the barriers are easier to manage because they are tangible (hardware) while others are more difficult (e.g. sociocultural norms and social network influences).

Fifth, social network influence is well documented, especially from the spouse/partner and relatives (Lowe & Moore, 2014). Persons within the social network may not be exhaustively identified as they may differ from one society to another (Lundgren et al., 2011), hence the possibility of hidden actors within the social network web. For example, in Zambian society, marriage counsellors play an important role in mentoring couples on married life (e.g. sexual relation, fertility, communication and conflict resolution) but they are sparsely cited in fertility studies in Zambia as being part of the social network web (Chiboola & Munsaka, 2016; Mwanza et al., 2019; Nomanje & Mandyata, 2017).

Last, fertility decisions are dominant and well documented in FP research. However, a review of early studies on fertility decision-making, for example Hollerbach (1983), did not map out the decision-making process. Instead this study identified the different types of fertility decisions, rules and how individuals weigh the different factors and actors in the process. Stein et al. (2014) established the actors (spouse/partner) in the decision to have a child or not, and concluded that though the decision is interactive, the ultimate decision-making power lies with one person.

Other studies (Ashraf et al., 2014; Balogun et al., 2016; Bawah, 2003; Hindin, 2000; Hollerbach, 1980; Weston et al., 2004) address partnership dynamics such as bargaining power, authority, communication and stability of the partnership in fertility decisions. Certainly, various factors and actors are at play in the fertility decision. However, these various factors and actors explain *why* and *what* but not *how* individuals arrive at their fertility decision.

Many scholars (Lopez, Grey, Chen, Tolley, & Stockton, 2016; Truong, 2014) lament the lack of theory-informed FP interventions or programs. Fortunately, Glanz and Bishop (2010) confirm the increasing number of public health and health-promotion interventions that are based on social and behavioural science theories. The need is obvious and urgent for a contemporary fertility decision-making theory to support the design of fertility behaviour change interventions, especially since fertility and population growth rates have an impact on

socioeconomic development as it influences the extent to which Sustainable Development Goals can be achieved (Starbird, Norton & Marcus, 2016). In SM circles, Rundle-Thiele et al. (2019), address the issue of theory development and recommend the theory development process developed by Manikan and Russel-Bennett (2016).

2.5 Demographic and Health Surveys (DHS)

The main source of data and trends about global fertility are the country-specific Demographic and Health Surveys (DHS). DHS were introduced to build on data generated from the World Fertility Surveys and Contraceptive Prevalence Surveys (Corsi, Neuman, Finlay, & Subramanian, 2012). The DHS program is funded by the USAID although some countries and other donors may co-finance them. In the past 34 years, these surveys have been carried out in more than 90 countries with the objective of advancing global understanding of fertility, family planning, maternal and child health, gender, gender-based violence, HIV/AIDS, malaria and nutrition (Demographic Health Survey Program, 2020) with recent expansions to include biomarkers, communicable and chronic diseases and health behaviours such as alcohol and tobacco use (Corsi et al., 2012).

The DHS are recognised as a reputable source of quality and accurate data (Corsi et al., 2012; del Burgo & Amaral, 2016; Fabic, Choi, & Bird, 2012) especially for countries with poor or non-existent vital registration and statistical systems (del Burgo & Amaral, 2016). They are a major source of data for analysis to inform policy formulation and evaluation, and core to many peer reviewed studies (Fabic et al., 2012).

However, like any other framework or research instrument, DHS have their own strengths and weaknesses which call for continuous improvement (Corsi et al., 2012; del Burgo & Amaral, 2016). One of the challenges of DHS is that it covers a wide range of things which can be categorised into two areas: maternal health, mortality, child health and mortality and nutrition deficiencies (MCHN); and fertility and family planning, sexual behaviour and knowledge of HIV/AIDS (PRH). As a result, it does not generate detailed data for each of the subcomponents.

Further studies are needed to complement the DHS data, especially more in-depth and qualitative understanding. Choic, Fabic, and Detunji (2016) assert that questions incorporated in the DHS questionnaire are not adequate for measuring access to family planning. Upadhyay and Karasek (2012) demonstrate that the data is not appropriate for measuring women's empowerment with respect to the family size decision. Slaymaker (2004) notes how the indicators used to measure sexual behaviour likened to HIV and are relevant to family

planning are problematic. For example, these indicators lack specificity for the nature and context of relationships. Studies across various contexts and countries can generate evidence that can be used to refine questions or response options in the DHS.

Studies such as those on which this thesis is based are important for understanding the trends identified by the DHS studies in Zambia. This is because quantitative data generated by the DHS cannot adequately explain the contextual differences, especially in Sub-Saharan Africa, which is said to be culturally heterogeneous, exhibiting variances in the uptake of modern contraceptives and fertility stagnation. DHS often sample only for statically significant data at national, regional and provincial levels, which may not be specific to districts and cultural groups. For example, DHS data does not adequately explain why there are significant variances in fertility across the 10 provinces of Zambia (Zambia Statistics Agency et al., 2019).

2.5.1 Highlights of the Zambia 2018 DHS on Fertility and Family Planning

The Zambia 2018 DHS is the 6th survey in the country since the first in 1992. Similar to preceding surveys, it generated data about fertility levels, sexual activity, fertility preferences, awareness and family planning methods. In response to the rising trend of contraceptive discontinuation of some modern contraceptives reportedly due to health concerns or fear of side effects, data on informed choices (i.e. provision of information about method side effects, what to do if one experiences side effects and other methods that can be used) was additionally captured. The following section describes some of the key findings of this 2018 survey (Zambia Statistics Agency et al., 2019).

The fertility rates across the 10 administratively defined provinces of Zambia range from 3.4 (Lusaka province) to 6 (Luapula province) (see Chapter 1 Figure 7). A difference in the average fertility rate between rural (5.8) and urban (3.4) areas was found and is notable. The actual fertility rate among Zambians aged 15-59 who are married or living together was 4.7 births per woman, and this is a decline from 5.3 births/woman reported in the 2013/14 DHS (Central Statistical Office et al., 2014). However, this decline is mainly driven by two provinces, Lusaka and Copperbelt, which are highly urbanised and predominately along the line of rail routes. It is not surprising that employment levels, education and exposure to FP messages is highest in the two (Lusaka and Copperbelt) out of the 10 provinces in the country. This pattern supports the proposition that socioeconomic development is one of the factors that slow down fertility or population growth rates (Cleland & Wilson, 1987).

The 2018 DHS report highlights the difference between intended fertility rates (4.0 births/woman) and actual fertility rates (4.7 births/woman) in Zambia. However, men have a higher self-reported fertility desire of 4.9 births/woman compared with women (4.6 births/woman). This variance in desired fertility between men and women may explain the reported difference between intended and actual fertility rates in the latest Zambian DHS. However, the DHS for Zambia and other countries, which is a quantitative survey and covers a broad range of issues, does not explain this variance.

Differences in fertility desires between spouse/partners has implications on the fertility decision-making process. This is because joint decision-making in case of differences in fertility desire between the spouse/partners requires negotiation or bargaining in order to overcome the variance, otherwise it leads to autonomous decision-making. This situation is not desirable because it has its own non-financial costs or implications (Ashraf et al., 2014). The statistics from the 2018 Zambia DHS (Table 6) show that spouses/partners jointly make fertility decisions in most cases.

Table 6: Statistics on FP Decision Types

	PRESENT USE STATUS	
Decision Type Who makes the decision on use of family planning	**Use family planning**	**Not using family planning**
Joint Decision (Husband and wife)	74%	55%
Mainly wife's decision	15%	29%
Mainly husband's decision	11%	12%
Total	100%	100%

Source: Zambia Statistics Agency, Ministry of Health (MOH) Zambia, and ICF (2019), pg. 117

The DHS data (Table 7) does not distinguish between the decision to *use modern contraceptives or not* and the *type of modern contraceptive to use*. With respect to the contraceptive choice, the DHS reports that more than 70 per cent of women who participated in the survey indicated that they made informed contraceptive choices: the service provider informed them about method side effects, what to do if they experience side effects and other methods that they can use. Unfortunately, this is only common among people who obtain contraceptives from public hospitals. Private hospitals record a low rate of informed contraceptive choices – see Chapter 1 for health facility mix in Zambia (Zambia Statistics Agency et al., 2019).

Like other previous DHS reports, a consistently high level of awareness is reported at 98.7 per cent but the Contraceptive Prevalence Rate (CPR) is 50 per cent. Future intention to use modern contraceptives among women who reported that they were not using any method of contraception was 60 per cent. The discontinuation rate within 12 months of adopting a contraceptive was 36 per cent. This is reported as mainly due to side effects (29.4 per cent), desire for another child (29.6 per cent) and desire for a more effective method (9 per cent). Table 7 shows the discontinuation rates for the popular methods and the main reasons.

Table 7: Discontinuation rates for main contraceptives reported in Zambia 2018 Demographic and Health Survey

METHOD	PREVELANCE	Reported MAIN REASON FOR DISCONTINUATION
Injectable	26%	Side effects/health concern
Implants	9%	Side effects/health concern
Pills	8%	Side effects/health concern
Male Condom	3%	Desire for more effective method
Other	4%	Desire for more effective method

NOTE: Other methods – female condom, sterilisation and natural methods e.g. withdrawal, safe days, Lactational Amenorrhoea.

Source: Zambia Statistics Agency et al. (2019) pg. 114

Noticeably, short-term contraceptives continue to be the main methods used in Zambia and the least used are long-term irreversible contraceptives. This pattern resonates with the evidence that in African countries many prefer birth spacing to limiting. As at 2018, the average birth interval in Zambia was 38.3 months, which is significantly higher than the World Health Organisation's (WHO) recommended birth interval of 33 months between two consecutive live births (Exavery et al., 2012). Even in the rural areas of Zambia, the average birth interval is 36.2 months and is as high as 44.9 months in urban areas. Nevertheless, long birth intervals are common in the early stage of a country's fertility transition and are widespread in Sub-Saharan Africa (Bongaarts & Casterline, 2012).

Overall, the Zambian population continues to be young with nearly half (48 per cent) of the people below 14 years of age and only 3 per cent aged 65 years and older. In spite of the young or predominantly young population profile (15-35 years), the majority of Zambians have either no formal education or only some primary education. Urban residents are better educated than are rural residents. The Lusaka province has the highest median years of formal education completed at 6.5 while the Eastern province has the lowest at 2.7. Only 27 per cent of the households are headed by a woman and the most common types of

employment across the Zambian population are agriculture and skilled manual work such as driving, plumbing, brick laying, carpentry etc.

2.6 Theoretical Framework

Fertility decisions and behaviour – the focus of this thesis – are encompassed in the field of reproductive health that is underpinned by health behaviour. Human behaviour can be defined as anything a person does in response to internal or external stimuli such as events (Davis et al., 2015). In the health context, this is defined as a mix of actions undertaken by individuals to prevent contracting a disease or suffering from the negative health consequences of not practicing or adopting healthy practices (Tlou, 2009). In this thesis, fertility behaviour is defined as the actions individuals or couples take to have children or not, using a contraceptive of their choice.

Motivated by the challenge to all scholars and practitioners to develop and use theory (Manikan & Russel-Bennett, 2016; Rundle-Thiele et al., 2019) in SM intervetions, this thesis adopts a convergent approach to reviewing and constructing a theoretical framework for FP interventions in Sub-Saharan Africa. Theories are the foundation of any given discipline or study because they provide the conceptual basis for organising knowledge. Therefore, the use of theories and models as scientific evidence in support of investing in social and behaviour change interventions or program is justifiable (Michie & Johnston, 2012).

This thesis has adopted the Theory of Planned Behaviour (TPB), Theory of Conjunctural Action (TCA), Transtheoretical or Stages of Change and the Engel-Kollat-Blackwell (EKB) Consumer Decision Model. The use of multiple behaviour-change theories or a hybrid model – one that adapts constructs from different theories (i.e. convergent approach), is common in behaviour change interventions (Michie et al., 2018; Michie & Johnston, 2012). This approach was deemed suitable for this thesis because of the need for a framework to guide formative research (Carins et al., 2016) to inform the design and implementation of context specific FP interventions.

The Theory of Planned Behaviour (TPB) was selected for two reasons. First, it is an improved version of the Theory of Reasoned Action, which is built upon the Health Belief Model and its theoretical principles. Second, it has been adapted to fertility intentions by its developers Ajzen and Klobas (2013) who acknowledge the practical limitations of the TPB when applied to fertility decision-making. Thus, Morgan and Bachrach (2011) propose the Theory of Conjunctural Action (TCA) to overcome these limitations.

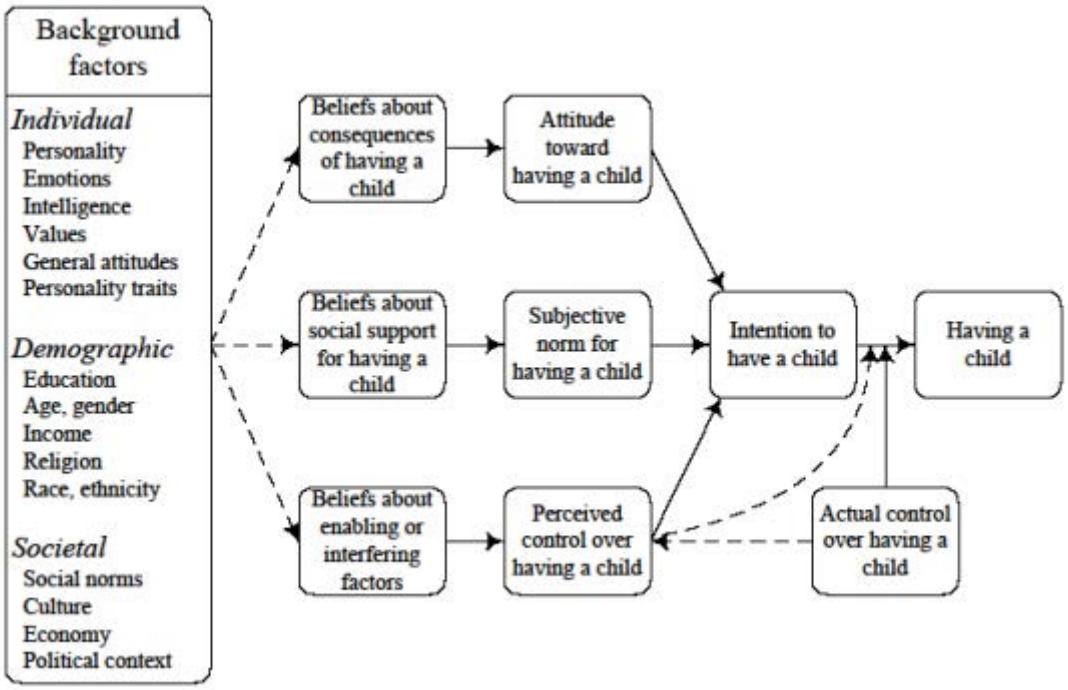
However, neither theory (TPB nor TCA) demonstrates the decision-making process but they do provide important constructs for understanding fertility behaviour and decisions. Therefore, the EKB Consumer decision-making theory was also considered because it describes the decision-making process. Conversely, the EKB model has rarely been applied to non-commercial purchase decisions, public goods or social and behaviour change. To complement the limited use of the EKB Consumer decision-making model in social and behaviour change research, the Transtheoretical or Stages of Change model was considered because of its emphasis on decision-making.

2.6.1 Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TRB) is a build-up from earlier theories. The Theory of Reasoned Action (TRA) was developed by Fishbein and Ajzen in 1975 after realising that the earlier Health Belief Model (HBM) was limited to health behaviour hence the need for a theory that could be applied beyond health (Taylor et al., 2006). Thus, the Theory of Planned Behaviour (TPB) is an extension of the TRA (Ajzen, 1985, 1991). Both the TRA and TPB suggest that the best way to predict behaviour is to identify the intention to act which is influenced by attitudes and beliefs. Therefore, four important things are brought out by these models: attitudes, beliefs, intentions and behaviour.

According to the TRA, behaviour intensions (i.e. plans, motivations or desires) can be predicted by an individual's attitudes (i.e. orientation towards behaviour based on beliefs and assessment) and subjective norms (i.e. the views of others and the pressure to conform to the generally acceptable behaviour). The same concept holds in the TPB but with an additional feature of control. The theory has evolved over time to incorporate a range of background factors (Figure 20), showing the use of the latest iteration of the theory in the specific context of family planning and it was concluded that:

> *The TPB can usefully be employed to further our understanding of fertility decisions. By examining behavioural, normative and control beliefs about having a child, we can identify important considerations that influence this decision. The information obtained can also guide adoption of policies or programs designed to encourage (or discourage) couples to have more children.* (Ajzen and Klobas, 2013, pg.203).



Source: Ajzen & Klobas (2013, pg. 206).

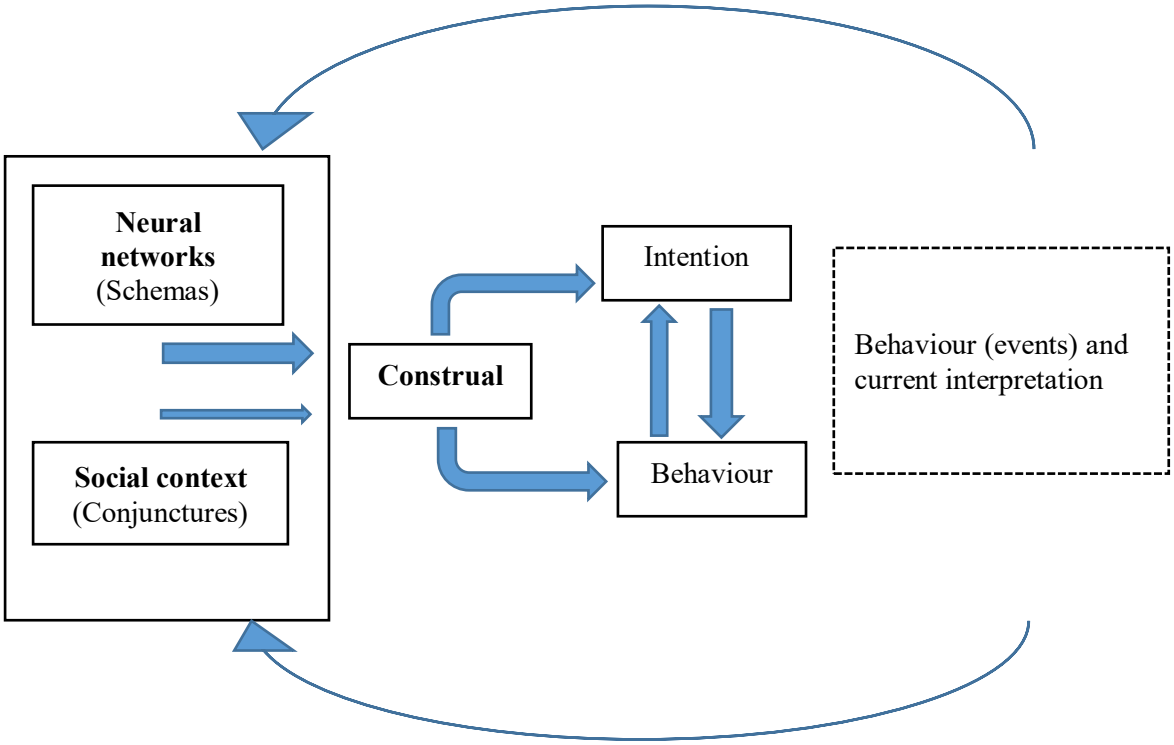
Figure 20: Theory of Planned Behaviour applied to fertility decisions

Although this theory may explain the *why* and *what* of fertility decision-making by pointing out the various factors (e.g. accessibility of health facilities, method mix) it does not explicitly recognise the actors at play in the fertility decision-making process, e.g. spouse/partner and close relatives, nor does it explain *how* the fertility decision is determined. In fact, its developers admit that the theory only predicts the intention to have a child(s) or not (Ajzen & Klobas, 2013).

2.6.2 Theory of Conjunctural Action (TCA)

This is a metatheory that has been proposed by Morgan and Bachrach (2011) as a response to the need to develop a more flexible and appropriate fertility decision-making model (Figure 21). It includes an emphasis on the need to reflect the opportunities and constraints that emerge in the course of human reproductive life. Unlike the TPB, this model combines social theory and information processing in the brain (i.e. mental structures held in the neural network of the brain about various experiences in one's life). The TCA assumes that fertility decisions are not rigid and may change over the life cycle due to experience or circumstances.

Recognising the possible pitfalls of the TCA and appreciating the validity of other models including the TPB which may explain short-term fertility decisions, Morgan and Bachrach (2011, pg.13) conclude that "an appropriate model or theory for human fertility is one that recognises the complexity of the decision and should be flexible enough to allow for life's zig and zags".



Source**:** Morgan and Bachrach (2011, pg.14)

Figure 21: Theory of Conjunctural Action

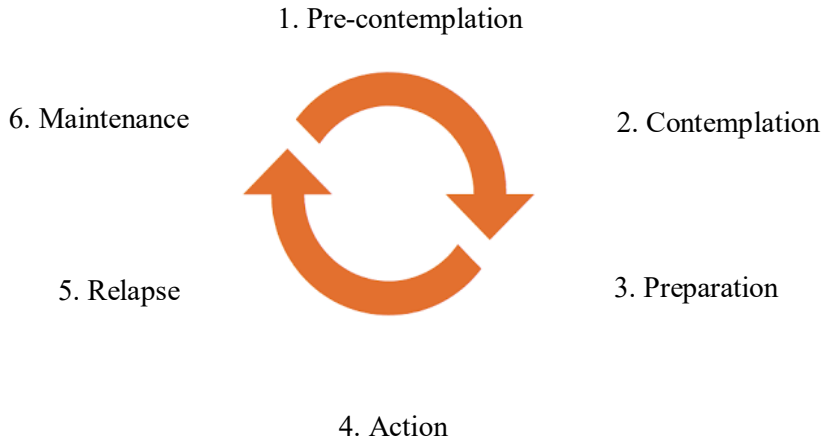
This model proposes an important construct – information processed by the brain also reflected in the EKB Consumer decision-making model, which splits information sources into two: internal and external memory. This is important especially for FP programs because it is evident that there is some information in the internal memory of people that is obtained from the mass media hence the high levels of awareness about FP. However, this information in the internal memory (brain), high levels of awareness about FP, does not guarantee adoption and use of modern contraceptives (Roser, 2020).

2.6.3 The Transtheoretical or Stages of Change Model

The Transtheoretical model (TTM) was developed in the late 1980s by Prochaska, Clemente and colleagues (Procheska & Velicer, 1997). It was developed to help address the social problem of substance abuse and dependence (Procheska & Velicer, 1997). The model has been applied to different behaviours other than substance abuse such as exercise, nutrition and reproductive health. Even though within reproductive health the model has mainly been applied to condom use and HIV/AIDS, it has also been applied to the uptake of family planning and contraceptives (Kamalikhah, Rakhshani, Najarkolaci, & Avval, 2015; Thua Ha, Jayasuriya, & Owen, 2003).

This model has been strongly criticised by some scholars who have called for its replacement because of its simplistic approach of decision-making behaviour (West, 2005). However, the model continues to be used by many practitioners because it appeals to them, is simple and logically explains how people go through change in a gradual process and accounts for relapses in behaviour. Rather than being linear as critics such as West claim, it forms a loop.

Nevertheless, its weaknesses have also been admitted and its developers agree that the model is a good template that can be easily redefined or adapted across different health behaviours (Grimley, Prochaska, & Prochaska, 1997). For example, Lacey and Street (2017) redefined the definition of "contemplation" within the context of physical activity and nutrition. Grimley et al. (1997) also applied the model to condom adoption, use and continuation, explaining that the shift from never using, to always using, a condom is a gradual incremental process. To date, the model remains useful and popular in health behaviour change interventions. The model has six stages (Figure 22).



Source: Prochaka (2008)

Figure 22: Transtheoretical Model

In the context of decision-making regarding adoption of contraceptive use, the model could be applied as follows:

Pre-contemplation: The assumption is that people who fall into this category are those who do not intend to take action in the foreseeable future. Though an average timeline of six months is assumed for this stage, this may not be the case across behaviours. During this stage, information about the consequences of the behaviour is key and the person may make attempts to do something about it but may not be successful. In the context of FP, this stage may be assumed to be the stage at which people are aware of FP as evidenced by the near-universal awareness of FP across different populations. However, the person may not see, or have the immediate need to use, a contraceptive.

Contemplation: This is the phase where people intend to change because they are more aware of the consequences of their behaviour. For example, a person may now be aware that their engagement in sex can lead to unwanted pregnancy. During this stage the person begins to weigh the costs and benefits.

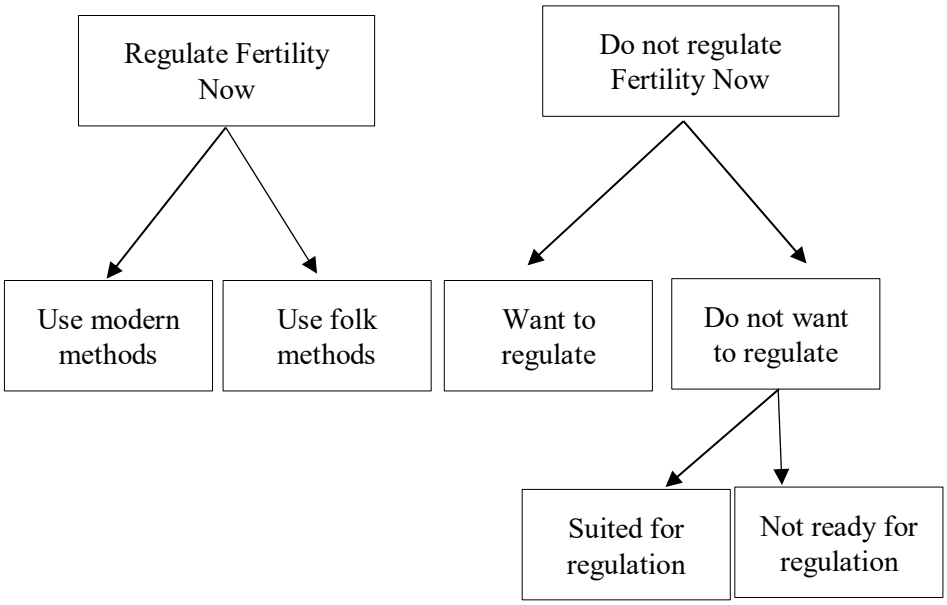
Preparation: At this stage, a person is ready to act in the immediate future and they would have taken some action, for example search for information about FP or contraceptives, other than the general awareness they may have. They may also engage their spouse or partner about the possibility of using a contraceptive.

Action: This is the stage at which the person has done something and what they have done can be observed or measured. In this case, it would be the stage at which the individual/couple has decided to use contraceptives and have selected a method, which they are using. They would have obtained the contraceptive from the health facility or bought it from the pharmacy or if they decided to use natural methods would modify their sexual behaviour in line with the requirements of the natural method they have decided to use**.**

Maintenance: The stage when people have modified their behaviour and make efforts to prevent relapse. In the case of contraceptives, this stage is dictated by the personal experience of the method that was selected. Bad experiences, especially adverse side effects or discomfort with mode and frequency of administering, may cause discontinuation and relapse. Therefore, this stage is crucial because it determines the extent of continued or sustained use and the importance of method switching.

The TTM assumes that people can be divided into groups on the basis of their stage of change. This assumption fits well with the marketing concept of marketing segmentation and the likelihood of different approaches being required for each segment. Market segmentation is the process of identifying and grouping consumers with similar characteristics (e.g. attributes, values, lifestyles, demographic factors) who are likely to respond in a similar way to the marketing stimuli (Camilleri, 2018). Consumers can be grouped based on their geographic location, demographic profile, psychographic or behavioural basis (Tynan & Drayten, 1987).

The concept of market segmentation has been successfully used in the SM of programs on sun protection (Jones, Rees, Hall, & Tang, 2005) and promotion of contraceptives (Simon, 1974). The push towards the need for FP programs or interventions which are context-specific and culturally sensitive, can be traced back to Simon (1974) who argued that the optimum strategy is different for each country, for different groups within the country and at different points in time. His argument was grounded in the theory of market segmentation and he proposed a basis on which to segment the contraceptive market (Figure 23).



Source: Simon (1974) pg.91

Figure 23: Contraceptive market segmentation

Therefore, the TTC is useful in the design of FP programs and interventions but can yield better results when used with other marketing theories and concepts. This is in line with Jones et al. (2005) who advocate bridging terminologies from the field of marketing and health promotion to enhance SM interventions.

2.6.4 Engel-Kollat-Blackwell

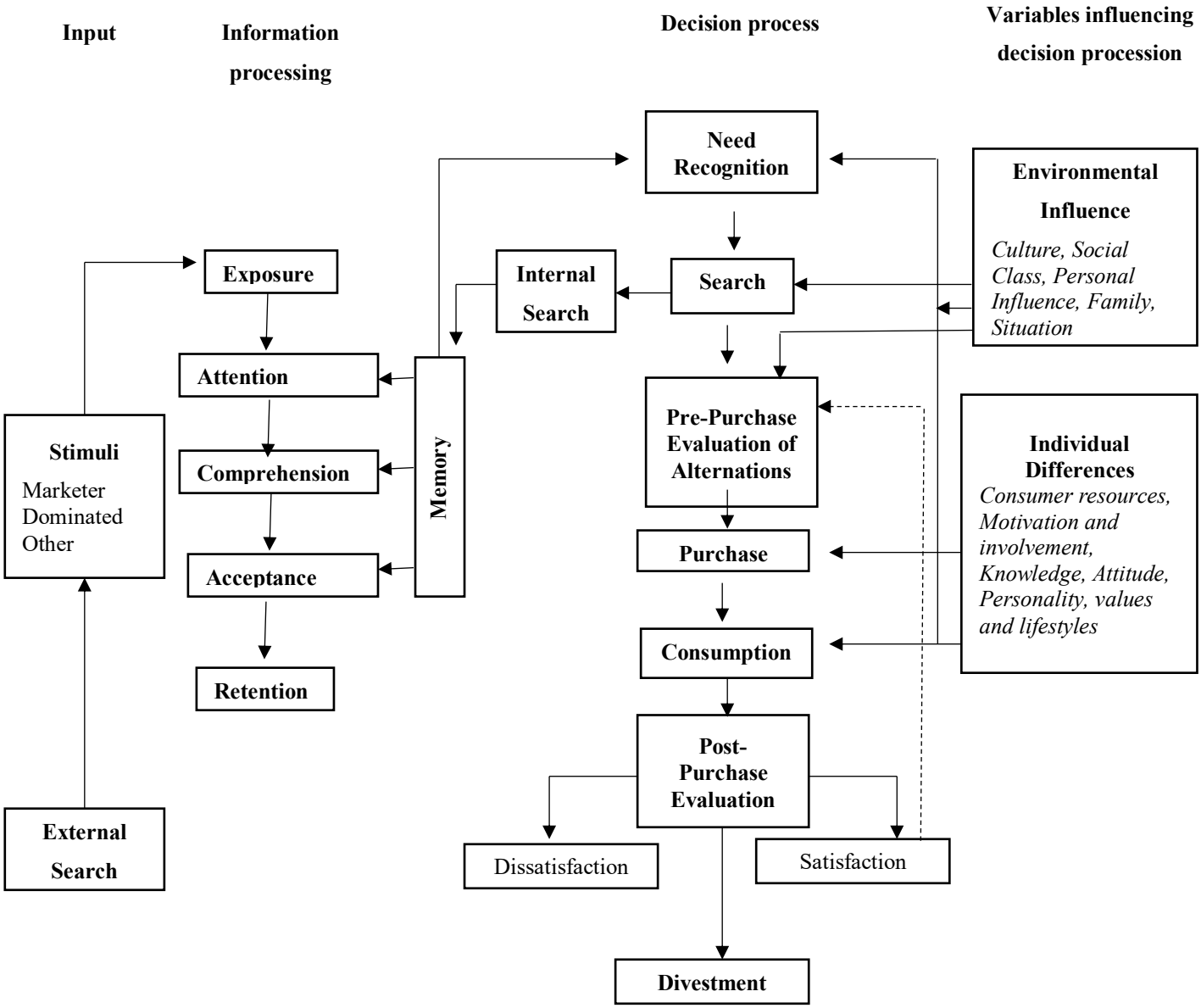
The Engel-Kollat-Blackwell (EKB) model is a consumer decision-making process model developed in the late 1960s by Engel, Kollat and Blackwell (Stankevich, 2017). This model is one of the earliest consumer decision-making models inspired by the need to understand consumer behaviour. The EKB model has been revised twice since its inception (1973 and 1978) due to the fact that human behaviour is difficult to predict because of the various internal and external factors that influence behaviour (Willman-Iivarinen, 2017).

This model remains dominant in consumer behaviour research because it integrates important elements of consumer behaviour that tend to be presented in isolation in other models. The EKB model proposes that consumer behaviour occurs as a result of the interaction of input, information processing, decision process and decision process variables and external influences (Figure 24).

This model assumes that consumer behaviour is the result of decisions that consumers make. As such, the decision process starts at the point when an individual realises that he has

a need which needs to be fulfilled. This is what leads them to search for information about the possible ways in which this need can be satisfied. The information can be obtained internally (memory) or externally and is used to evaluate the possible courses of actions. The selection of the best action out of the possible ones marks the purchase decision point.

Apart from the information, there are other important internal and external variables that influence the decision, namely environmental factors (such as culture, reference groups, family and context) and personal factors (such as demographics, beliefs, attitudes, lifestyle, values etc.). Beyond the decision point is the evaluation point which is referred to as post-purchase. At this stage the individual evaluates on the basis of experience and level of satisfaction with the decision that was made and then decides either to stick to the same option selected (repurchase) or try another option or alternative.



Source: Bray (2008, pg. 16)

Figure 24: Consumer Decision-Making model

The EKB model provides key constructs of the decision-making process. However, this model does not reflect the complexity of joint or interdependent decision-making (Jenkins, 1980). Joint or interdependent decision-making requires an interdisciplinary approach because of the information processing, social influence, attitude change, commitment, group dynamics and policy which feed into the decision-making process. Fertility decisions are an example of both joint (spouse/partner) and interactive decision-making (a couple and their social network). Even though Jenkins (1980) explains this in the

context of consumer decision-making, the dynamics are similar to those in fertility decisions. For example, policy, social network influence and spouse/partner dynamics shape fertility decisions. Similarly, Filliatrault and Ritchie (1980) and Koo (2006) established that family structure is important in purchase decisions and social network influence will become increasingly important in consumer decisions (Willman-Iivarinen, 2017).

The EKB model is promoted by its developers as a comprehensive consumer decision-making model though it has been critiqued for its limitation in predicting behaviour. While it is a realistic and integrated model, it has not been widely applied to other decision contexts beyond purchase decisions (Bray, 2008; Stankevich, 2017). Even within consumer research, a multidisciplinary approach is being recommended in order to understand contemporary purchase decisions because of the technology driven multiple sources of information, limited time and several product alternatives (Willman-Iivarinen, 2017). Nonetheless, it was found to be applicable and useful in understanding a non-purchase decision, namely, the election decision (O'Brien, 1987). Therefore, the EKB model is relevant to this thesis as it provides a basis for understanding the fertility decision-making process. Therefore, the EKB Consumer decision-making model and the other three theories (i.e. TPB, TCA and TTM) form the theoretical framework of this thesis (Figure 25).

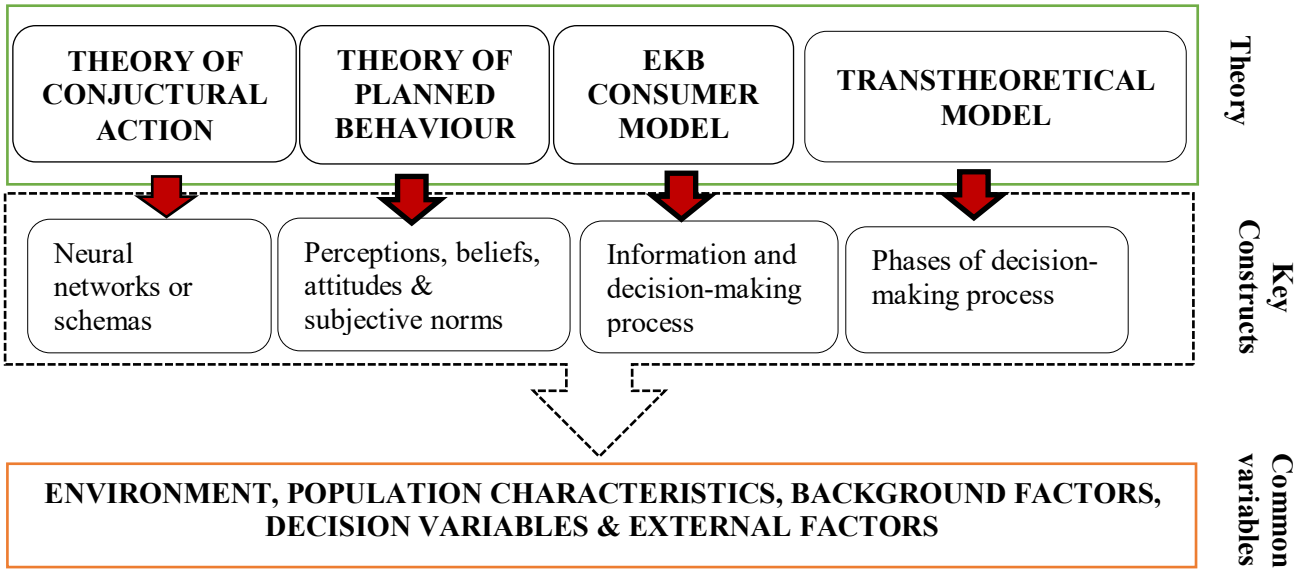


Figure 25: Theoretical framework (author generated)

2.7 Conceptual Framework

Though sparsely applied in non-purchase decisions, the EKB model offers easily adaptable constructs of the decision-making process that are not clearly reflected in the traditional behaviour change models such as TPB and TTM. Therefore, the EKB Consumer decision-making model was instrumental in conceptualising the fertility decision-making process (Figure 26).

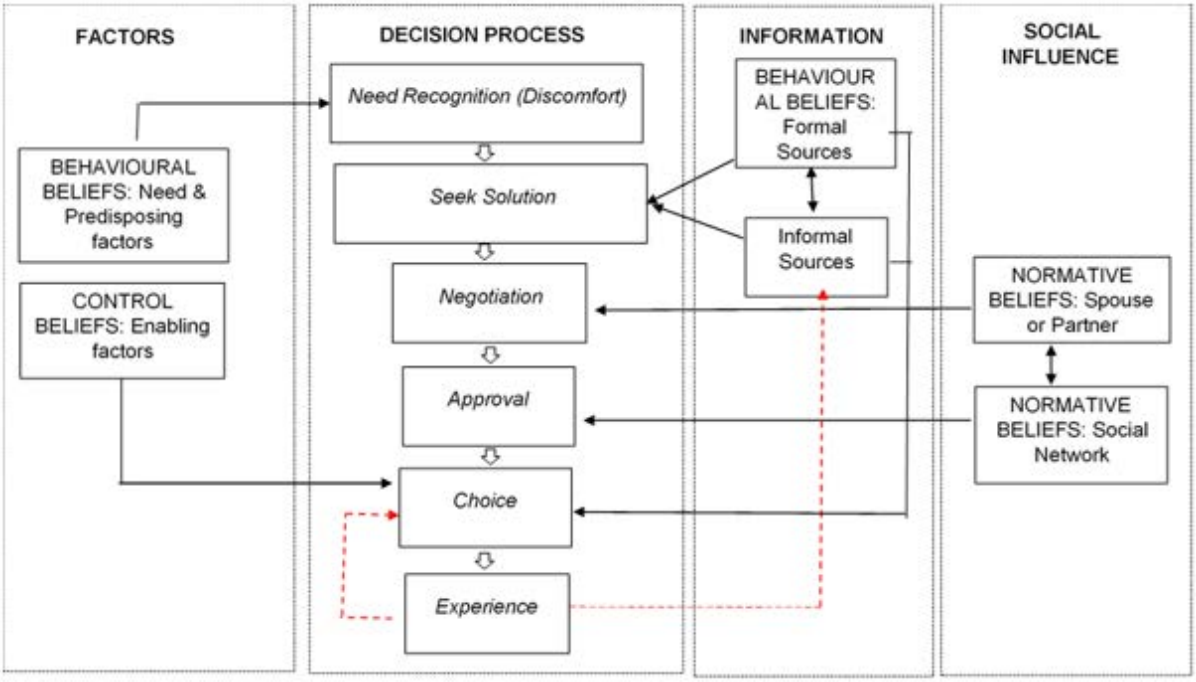


Figure 26: Conceptual framework (author generated)

The premise of the conceptual framework is that individuals/couples move from recognising the need to limit, space or postpone births to consciously or unconsciously searching for ways to avoid or prevent pregnancy. In the process they seek approval from, or negotiate with, the spouse/partner before evaluating alternative FP methods (traditional, natural or modern contraceptives) in order to select the suitable method. The outcome of the choice can be either satisfactory or unsatisfactory. Satisfactory outcomes lead to continued use of the method while unsatisfactory outcomes lead to abandonment or discontinuation.

The conceptualised stages in the fertility decision-making process are a synthesis of themes identified from the literature review on FP and themes from preliminary formative discussions held with key informants – people working in FP programs in Zambia (Appendix 14). The key informants provided insights about the nature of information search that women

engage in when making the decision to adopt and use modern contraceptives or not. For example, they talked about the realities of social approval (from close relations and spouse/partner) and negotiation with the spouse/partner, which may be overlooked at the contraceptive counselling point.

The conceptual framework assumed that the fertility decision-making process follows a systematic decision-making process such as that of the EMK model. Another assumption that was made is that the various stages in the fertility decision-making process are influenced by a combination of factors, actors and information. For example, at the choice (selection) stage, the possible factors at play would include:

1. Personal needs (short-term or long-term contraception, with/without protection for STIs),
2. Previous experience with method or FP service,
3. Views of others about the available methods of contraception (i.e. what is the view of spouse/partner/friend's/FP service provider on modern contraceptives?)
4. What a person deduces from the different sources of information e.g. memory (experience) and externally (informal and formal sources).

Therefore, this conceptual framework acted as a guide for collecting data which was needed to profile the factors and actors along the fertility decision-making process (i.e. formative research) and the specific research questions that relate to it are outlined in figure 27. The conceptual framework also informed the questions and the sections of the data collection instruments (e.g. interview guide).

2.8 Research Gap

Though people do not oppose contraception per se, they may be reluctant to adopt and use modern contraceptives due to fear of side effects, religious beliefs and social pressure (Gele et al., 2020; Muanda, Ndongo, Messina, & Betrand, 2017; Save, Erbaydar, Kaca, Harmanci, & Karavus, 2003). In addition, other various factors (e.g. method mix, accessibility, service quality) and actors (e.g. service providers and spouse/partner) are at play in fertility decisions (Bakilana & Hasan, 2016; Boivin, Bauntin, Kalebic, & Harrison, 2018). Hence, fertility decisions are complex and interdependent.

Many studies (Das & Tarai, 2011; Stein et al., 2014; Weston et al., 2004) address fertility decision-making. However, none of them provides a detailed structure for the fertility decision-making process and it is not clear where and when the established factors or actors are active in the process. The extant evidence, theories and models barely address the

stages that individuals undergo to arrive at the decision to have a child or not, using a contraceptive of their choice. Yet, the success and effectiveness of fertility behaviour-change interventions depend upon the private fertility decision.

Unlike other studies on fertility decisions, this thesis utilises the consumer decision-making model to structure the fertility decision-making process. The Business Dictionary (2020) explains that consumer decision making is a:

> *Process by which (1) consumers identify their needs, (2) collect information, (3) evaluate alternatives, and (4) make the purchase decision. These actions are determined by psychological and economic factors, and are influenced by environmental factors such as cultural, group and social values.*

Thus, this thesis structures the fertility decision-making process using the concept of the consumer decision making process, interdependent or joint decision-making and constructs from a mix of theories, namely the EKB Consumer decision making model, Theory of Planned Behaviour, Transtheoretical model and Theory of Conjunctural Action. This is in an attempt to advance the development of a model or framework that reflects the nature of the joint decision-making process. Currently, no model or framework in both consumer behaviour research (Liu, Dallas, & Fitzsimons, 2019; Willman-Iivarinen, 2017) and non-purchase decisions like health decisions or social welfare (Beresford & Sloper, 2008; Osamor & Grady, 2018; Stein et al., 2014; Vouking, Evina, & Tadenfok, 2014) depicts the joint decision-making process.

This thesis is based on three studies. The first study explored the possible hidden actors in the fertility decision in African societies, such as marriage counsellors. The second and third studies focused on the steps taken to arrive at a contraceptive decision. Figure 27 shows a summary of the research design.

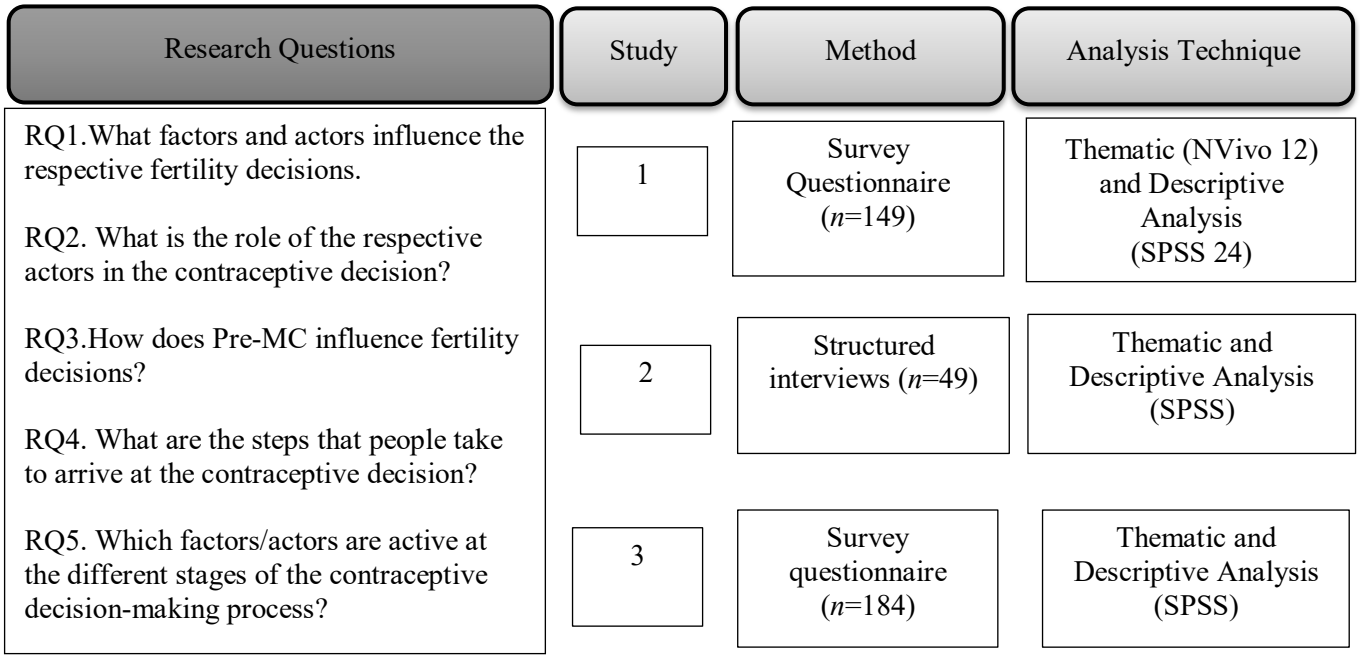
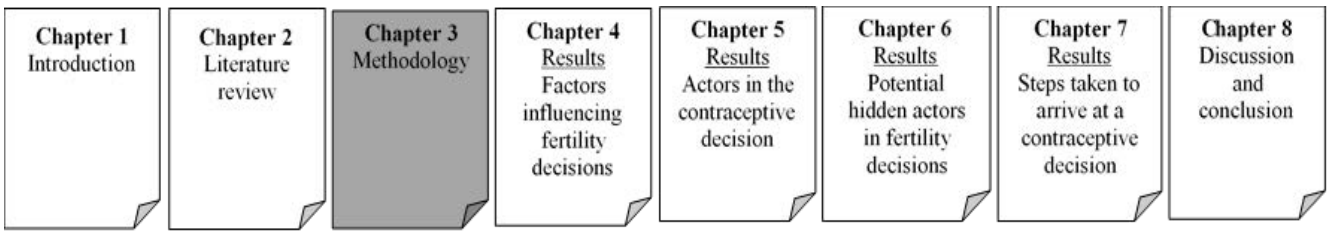


Figure 27: Summary of research design

2.9 Chapter Summary

This chapter presents the discipline and theoretical contexts of the thesis. First, the transdisciplinary nature of mainstream marketing is explained. Second, the subdiscipline of SM is discussed and its relevancy in fertility behaviour is demonstrated. Third, an overview of the global FP agenda and its timeline is presented. Key FP issues are discussed according to subthemes such as types of FP methods (traditional, natural and modern), the barriers (sociocultural and economic) and influence of social networks (spouse, family, peers and community). The fertility transition of Sub-Saharan Africa, and in particular Zambia, is also covered. An overview of relevant theories is provided, together with the rationale for their selection. Then the research gap is illuminated i.e. the fertility decision-making process. The thoughts and understanding of the review of marketing, Social Marketing, family planning and behaviour change theories are summarised in the theoretical and conceptual frameworks. The next chapter presents the philosophical approach that governs this thesis, the study site and the ethical considerations.

Chapter 3: Methodology



3.1 Introduction

As noted in the previous chapter, this thesis considers the need for a decision framework that reflects the personal fertility decision-making process. This will advance the knowledge about fertility decisions beyond the identification of the various factors and actors at play. In order to do so, the research questions tap into personal experiences in deciding whether to have a child or not using a contraceptive of choice. The extent to which these decision-making experiences can be generalised is important.

Therefore, this thesis takes a pragmatic research stance, applies an abductive approach (logical and methodological way of discovering knowledge) in advancing the knowledge about the steps persons consciously and unconsciously undergo in making fertility choices. This thesis relies on data from three subsequent studies. The first study involved structured interviews (n=149) while the second study involved semistructured interviews (n= 49) and the third study used a survey (n=184).

3.2 Philosophical Stance

Research philosophy can be defined as the researcher's belief about the way knowledge is discovered i.e. how data is collected, analysed and used (Saunders, Lewis, & Thornhill, 2019). There are two schools of thought about a researcher's philosophical stance, methodology and research questions. One school is that the methodology in a given research should be determined by the philosophical stance and phenomena to be studied (Holden & Lynch, 2004). The other is that methods are not dependant on a philosophical stance but on the set research questions (Knox, 2004). These views are informed by inductive (suppling evidence for truth to be concluded) and deductive (use of alternative truths to reach a logical conclusion) approaches in research which each have shortcomings.

This thesis adopted a philosophical stance that combines inductive and deductive reasoning to overcome weaknesses and benefit from the strengths that both approaches offer

(i.e. Abduction). Abduction enables a researcher to explore data, find a pattern and develop theory (Chong, 2006). Timmermans and Tavory (2012) explain that this approach has made it possible for social science researchers to develop new theories and discover new knowledge. This is because abduction offers social science researchers a new way of discovering knowledge in a methodologically ordered manner using inference logic (Reichertz, 2004). This approach has been recognised as a means of advancing knowledge in the field of social and behavioural science (Onwuegbuzie & Leech, 2005). Hence, an abductive research approach was appropriate for this thesis because both extant literature and empirical data were used to construct and modify the fertility decision-making framework.

This thesis argues that high fertility (a phenomenon) occurs as a result of personal fertility choices and behaviour of people (social actors). Thus, the ontological position of this thesis is subjectivism. Ontology is the researcher's perception of social entities in research, of them being objects or subjects. Subjectivism is an ontological position that assumes that social phenomena (in this case high fertility) are created from the perceptions and consequent actions of social actors (people) concerned with their existence. Central to this thesis is the construction of the personal fertility decision-making process. The epistemological position of this thesis is that different forms of data (qualitative and ordinal/categorical) are needed to construct the personal fertility decision-making framework.

This thesis takes a pragmatic philosophical stance. Pragmatism is a philosophical stance that is premised on the understanding that methodology is determined by the research problem or phenomena to be investigated. Pragmatism enables the use of mixed data in developing knowledge (Morgan, 2014). Onwuegbuzie and Leech (2005) explain the critical role that research questions play in the methodology of the study as they influence the research design, sampling method, technique and data analysis. The research questions in this thesis were answered using data from three subsequent studies. However, care was taken with the understanding that philosophical pluralism is not acceptable even though methodological pluralism is (Knox, 2004). Figure 28 shows a summary of the philosophical assumptions of this thesis.

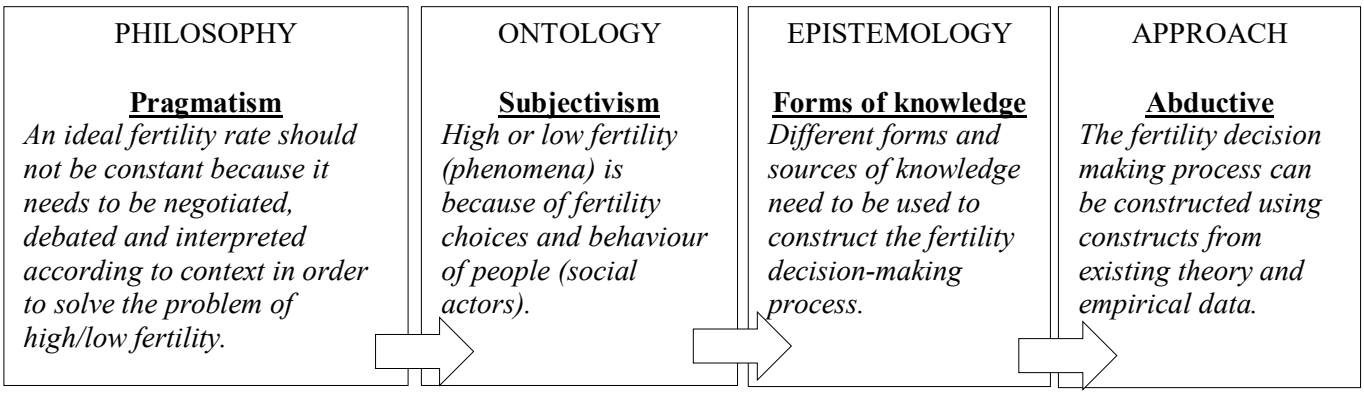


Figure 28: Summary of Thesis Philosophic Stance

3.3 Research Design

Research on fertility behaviour is increasingly attracting social science experts. This has resulted in the use and adaptation of several social science data collection methods that are qualitative in nature. A number of studies on fertility or FP use structured interviews (Berhane et al., 2011; Mathe, Kasonia, & Maliro, 2011; Nagasea, Kuniib, Wakaib, & Khaleelc, 2003) to carry out cross-sectional surveys. Others (Godfrey, Chin, Fielding, Fiscella, & Dozier, 2011; Muanda et al., 2017) use a mix of in-depth interviews and focus group discussions. Similarly, semistructured interviews and surveys were used to collect data for this thesis.

The use of a mixed-methods approach is common in fertility research and this practice is gaining ground (Johnson & Onwuegbuzie, 2004). In this thesis, three studies addressing different but interdependent objectives feed into the aim of the project. The first study provided evidence about the specific potential but hidden actors (i.e. marriage counsellors) in the fertility decision-making process in Zambia.

The results from Study 1 informed instrument design for the subsequent studies. For instance, it was discovered that respondents perceived “family planning” to be synonymous with “modern contraceptives”. Thus, questions about current or previous experience with contraceptives in Study 2 were phrased as follows: (i) Do you plan to/use any family planning or contraceptives? (ii) Have you previously used any family planning or contraceptives? Similarly, the themes that emerged from Study 1 as the reasons for having children were useful in determining the response options to the question: Why do you want/plan to/ have children? Results from the first study also made it necessary to include

"marriage counsellors" as one of the response options to the question: Apart from health personnel, who else would you consult when deciding which FP method or contraceptive to use?

Equally, the results from Study 2 informed the phrasing of questions and determined the sections of the questionnaire for Study 3. Some questions in the initial questionnaire for Study 3 were discarded because the results from Study 2 helped to focus the data collection for Study 3 by aligning the instrument with the identified steps of the decision-making process.

In summary, Exploratory Sequential Mixed Methods, which enables the collection of different data sets (Creswell, 2013) was used. This type of research design enables data sets to be built on from one set to another, a practice that is appropriate for addressing the nature of the gap identified addressed by this thesis. Thus, mixed-methods research design was suitable for this project because of the need to understand people and the context in which actions and decisions are made (Razail, Anwar, Rahman, & Ismail, 2016). However, this approach is quite demanding because of the mix of data collection methods, but the benefit of integrated and comprehensive research outcome is worth the extra effort.

3.4 Cultural Competence

In many African and Asian societies, open discussion about sex and fertility behaviour is culturally and socially unacceptable. This presents a risk and practical challenges in the data collection process. Deliberate data-collection strategies are required to manage this risk. Hill and Goldstein (2010) recommend the design of research strategies that reflect cultural awareness in the data-collection process and interpretation of results. For example, Pierce and Scherra (2004) cautiously used local health care providers to select participants and relied upon their interactions with the communities to access the homes of respondents and to obtain consent from respondents because of the trust the respondents had in the local health care providers.

Similarly, cultural competence of the Principal Investigator (PI) and research assistants (RAs) in this thesis was paramount, especially for the Study 1. This is because the study combined two socially and culturally sensitive topics namely, pre-marriage counselling (pre-MC) and fertility behaviour which are closely related to sexual behaviour. The PI, who had undergone both traditional and religious pre-MC, is married and has children, purposively engaged RAs aged 25 and older, female, married and familiar with family planning or modern contraceptives. The RAs were engaged in order to manage the time

constraints (collect the required amount of data within a shortened data collection period) and fatigue – interviewing is by its very nature is tiring which can lead to short cuts and poor quality interviewing and recording.. They also acted as a mechanism for managing the risk of biasness in the data collection process because they were not involved in the design or data analysis phase of the project.

However, of the two RAs who were initially recruited, one had to be replaced during the data collection process because a number of respondents expressed discomfort in discussing FP matters with a person who had never had a child. They felt that the RA could not relate to their situation or experience. Furthermore, for purposes of recruiting a good proportion of male respondents, a male RA was also hired in the subsequent studies. For example, a number of male respondents (graduates and high-income earners) recruited from the private hospital refused to be interviewed but accepted an invitation to fill in the questionnaire on their own. Tape recording of the interviews was discontinued because many of the respondents did not give consent to be tape recorded but accepted to be interviewed, with the interviewer taking notes.

The need to respect and preserve culture had implications on reporting and communicating the research findings of Study 1. In Zambian society, the teachings or key messages of the traditional pre-MC are considered to be highly confidential, a preserve of those who are married and not to be openly shared. Therefore, reporting of the detailed teachings of the traditional pre-MC would be considered a betrayal of society and respondents thus extra care (i.e. by not reporting the details of the teachings) and responsibility was taken when reporting the findings on the topics covered during pre-MC.

3.5 Data Collection Sites and Points

Although the total fertility rate for Zambia has reduced from 6.7 births in 1992 to 4.7 births per woman in 2018, fertility differentials across regions and settlement patterns continue. Phiri, Banda, and Lemba (2015) note that despite the increase in the uptake of modern contraceptives, fertility rates per woman in rural areas continue to be high. Therefore, it was important to ensure that a mix of respondents from different residential areas participated in the study.

The original plan was to collect data from four out of the 10 provinces in Zambia, namely Lusaka, Eastern, Northern and Southern, representing: (a) predominately urban areas, (b) predominantly rural areas, (c) higher fertility areas and, (d) low fertility areas. However,

the lengthy clearance procedure (Figure 29) as well as resource and logistical constraints made it impracticable to collect data from four provinces.

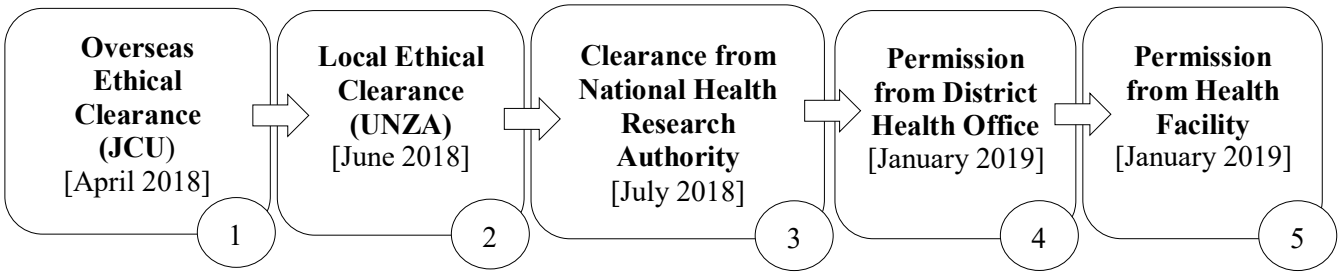


Figure 29: Ethical and data collection procedure

The revised research plan focused on collecting data from one province but ensured that different settlement patterns (urban, rural and peri-urban) were captured. This province was selected because it has the highest population in the country – approximately 2.5 million (World Population Review, 2020b), has a mix of settlement patterns (urban, peri-urban and rural) and is home to people of different ethnolinguistic groups such as Bemba, Tonga, Lozi, Nsenga, Tumbuka, Ngoni and Chewa (Pariona, 2017). This provided a representation of all the provinces and major cultural language groups.

Data collection for Study 1 and Study 2 was restricted to the Lusaka district due to logistical and time constraints. However, for Study 3, data was collected from four out of the eight districts in Lusaka province: Lusaka, Kafue, Chongwe and Chilanga (Figure 30). This was important because of the need for a representative sample to allow findings to be generalised.

Source: Musuka and Mainza (2015) pg. 2

Figure 30: Map of districts in Lusaka province

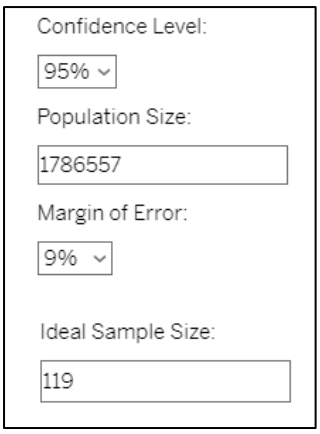
3.6 Project Sample Size

The latest estimate shows that the total population of Zambia is 18.33 million with an annual growth rate of 3.3 per cent (World Population Review, 2020b). However, the target population for the studies on which this thesis is based was people in Lusaka province based on the 2013/14 DHS report, aged 15 and above (approximately 54 per cent of the population) giving an approximate population of 1.9 million people (Table 8).

Although the studies were carried out in Lusaka province, data was collected from four out of the eight provinces. Therefore, the sample sizes for the respective studies were calculated using the population of the selected districts. An electronic sample size calculator (Qualtrics, 2019) was used to calculate the sample size for Studies 1 and 3 (Figures 31 and 32).

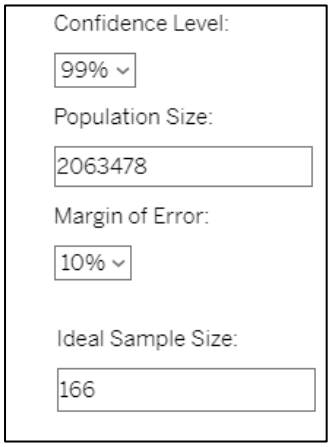
Table 8: Target population

Description	**Population**
Zambia total population (2013/14 DHS)	16. 9 million
Lusaka province population (19%)	3.6 million
15 years and above (54%)	1.9 million
Lusaka district	3308438
Chilanga district	152824
Kafue district	171902
Chongwe district	188091



Note: Based on 54% (15 years and above) of the total population of Lusaka district

Figure 31: Calculation of sample for Study 1



Note: Based on 54% (15 years and above) of the total population for Lusaka, Chilanga, Kafue and Chongwe districts.

Figure 32: Calculation of sample size for Study 3

The sample size for Study 2 was determined using the concept of saturation point theory. Saturation point is the point at which no new perspectives, insights, themes or information emerge from the data (Townsend, 2013) and is a common practice in qualitative research (Mack, Woodsong, Macqueen, Guest, & Namey, 2011). However, while there are various reasons and conclusions about the sample size for qualitative studies, it is not possible to adopt a universal sample size (Fusch & Ness, 2015). For example, according to a study conducted by M. Mason (2010), average qualitative PhD projects use a sample size of 31 but a range of 38-57 is common. Therefore, even when applying the saturation point theory in sample size determination, it is advisable to set a minimum sample size from the beginning (Francis et al., 2010).

Hence, in this thesis, an indicative sample size of 36 was set at the beginning of data collection for Study 2. Table 9 shows the required and actual sample size for all the three studies. Furthermore, gender quotas of 40 per cent (male) and 60 per cent (female) were set to ensure that the men's voice in fertility decision-making research was captured (Vouking et al., 2014). A lower proportion of male respondents was set because most fertility interventions target women (Adelekan, Omoregie, & Edoni, 2014).

Table 9: Required and actual sample size

Study	Method	Required sample size (n)	Actual sample size(n)
1	Online G Power Calculator	119 (CL-95%)	149
2	Saturation point theory	36	49
3	Online G Power Calculator	166(CL-99%)	184
Total			**382**

Identifying and reaching the saturation point is crucial in qualitative research and it influences the validity of the results (Fusch & Ness, 2015). However, it is neither easy to identify this point nor is there a universally applicable way of identifying it. In Study 2, the saturation point was established using the constructs of the conceptual framework (fertility decision-making framework – discussed in Chapter 2).

The overall sample (n=382) of this thesis presents a good mix of respondents on which the fertility decision-making framework was constructed (see Chapter 7). This is because data was collected from respondents with varying demographic factors. Generally demographic factors are important and the relevant ones for a particular study and setting need to be established (Connelly, 2013). Similar to other studies on fertility (Adhikari, 2010; Chandiok, Moudal, Mahajon, & Sarawathy, 2016; Ghannam, 2005), the demographic factors that are covered in this thesis include age, marital status, place of residence, literacy status or level of education, religion, ideal family size and ideal birth interval.

3.7 Ethical Considerations

This thesis is based on data collected from Zambia under a PhD thesis coordinated by James Cook University, Australia, in the Graduate Research School. Therefore, the ethical and research conduct regulations / codes for both Australia and Zambia applied. The specific ethical concerns as provided for by the Australian Code of Responsible Conduct of Research and the National Health Research Act, 2013 and regulations in Zambia, include:

1) The need to respect the human participants (rights-privacy and confidentiality) in this research, especially that it will involve collection of private information about fertility

2) The need to adhere to the prescribed safety and security practices, especially in rural communities where there is need to seek authority from traditional leaders such as headmen before commencing any data collection.

Ethical clearance was obtained from James Cook University (No. H7242) (Appendix 1) and University of Zambia (No. HSSREC 015) (Appendix 2). The University of Zambia is one of the two institutions in Zambia that are authorised to review and grant research ethical clearance (Canadian Coalition for Global Health Research, 2019). Apart from ethical clearance, all health-related research in Zambia requires data collection permission from the National Health Research Authority (NHRA) (National Health Research Authority, 2020). This is a new requirement by the Zambian government to track all health-related research in the country in view of some earlier questionable research conduct. For example, during a microbicide feasibility study conducted in Mazabuka among low literacy participants, consent was compromised (Nkandu et al., 2014). Thus, obtaining NHRA clearance for health-related research is mandatory (Appendix 3).

3.8 Data Collection Experiences

Recruiting male respondents was a challenge. Therefore, a male RA was deliberately hired to complement the main female RAs. Furthermore, the data collection points for Study 3 was changed from health facilities to areas prone to social interactions: markets; central business areas; and bus stations. This is because a number of respondents especially in peri-urban hospitals were sceptical about disclosing information about themselves for fear of the RAs disclosing the information to health personnel at the same hospital.

During data collection for Study 3 it was observed that respondents from markets were more open and comfortable in responding to questions. They also had the time to share their personal experiences and asked for contraceptives. The general and practical data collection challenges that were encountered across the three studies were:

i) Most prospective male respondents especially in Kafue districts (≥ 30 years) refused to be interviewed because they were of the opinion that family planning issues could not be discussed with the opposite sex or someone younger than them.
ii) The negative impact of previous unethical research practices reported by Nkandu et al. (2014) was encountered during data collection of Study 3. One prospective respondent was hostile to the RA and a chat with him reviewed that he was aware of the Mazabuka research which was “harmful” to respondents. This experience made

the research team more sensitive and better prepared for prospective respondents with similar concerns.

iii) Middle- and high-income respondents were difficult to capture as they were mostly busy. They also thought the study was a waste of their time, expressing frustration about the number of similar studies that had been carried out without actual benefit to the communities.

iv) Some male respondents deliberately decided to participate in the study because of the topic, which made it easy for them to make sexual advances on the female RA. Some respondents threatened discontinuing the interview if the RA refused to give them her personal contact details. In such instances, RAs had to take time to explain to the respondents the importance of professionalism and respect and where this could not be resolved, the RA politely ended the interview.

v) The RAs were trained to translate the research questions on the spot, into the language of the respondent if the respondent could not speak English. This was time-consuming and it was challenging in the few cases that required the RAs to translate the exact words from the respondents back into English. In such cases, the interviews were prolonged. Furthermore, due to the sensitive nature of the topic, care had to be taken in translating the questions from English into the local language (Bemba and Nyanja) to ensure that respondent did not feel insulted by the question or felt their privacy was being "invaded".

vi) Data collection in areas prone to social interaction posed a risk of "contamination of the data collection spot". Data collection sites in this case were taken to be a radius based on the RA's judgement or intuition. The contamination of a data collection site was caused by the small token of appreciation (mobile prepaid scratch cards) that were given to respondents at the end of the interview and the refreshment (bottle of Coca-Cola/Fanta/water). Contamination occurred because word spread about the benefit of taking part in the study. Prospective respondents made themselves easily recruitable. Therefore, the research team constantly moved from one site to another after interviewing a maximum of five respondents per spot in a selected sampling frame (i.e. market, bus stations or business area).

3.9 Data Analysis

Much of the data was collected using an interviewer-administered questionnaire. However, some respondents requested that they fill in the questionnaires on their own. In

addition, extra notes were taken during the interviews. Tape recording was discontinued because many respondents were hesitant to give consent for this but agreed to the interviewer taking notes. Therefore, it was important to crosscheck the data especially from the self-administered questionnaires. This was done to ensure data quality.

A mix of data was generated from the open and closed questions in the three studies. The closed questions generated mainly categorical data while the qualitative data was generated from the open questions. The use of both qualitative and quantitative data was useful in validating the findings and interpretations of the results. For example, low Alpha (0.005 > 0 .007) were reported for the scale reliability test. This was due to the short Likert scale that was used to test the influence of pre-MC on the contraceptive and family size decision. However, this weakness was overcome by the rich qualitative data (Chapter 6, section 6.4). Epi Info 7, Excel, SPSS 24 and NVivo 12 were used to process and analyse the data (Figure 33).

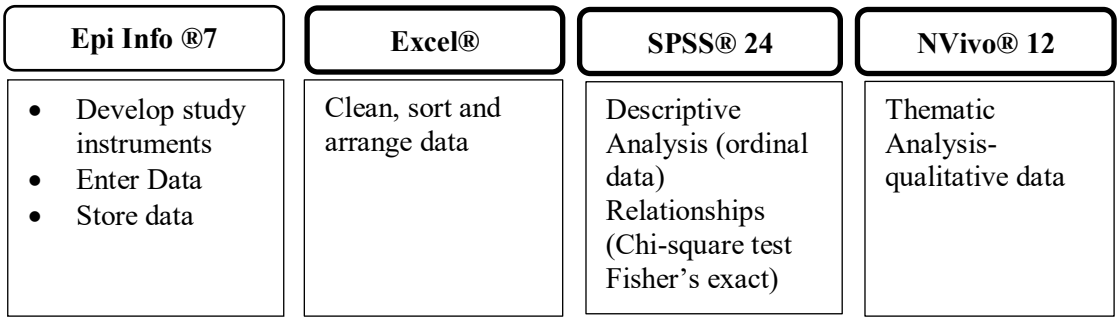


Figure 33: Software used for Data Analysis

The instruments for all three studies were developed using Epi Info. Epi Info is a statistical software for epidemiology developed by the Centre for Disease Control and Prevention. This software has modules for creating data-collection instruments, entering, analysing and storing data. The preliminary descriptive analysis for Study 1 was carried out using Epi Info and exported to Excel.

Thematic analysis was used to analyse the qualitative data. The themes were identified after familiarising oneself with the data. A deductive approach was heavily relied upon to code the themes and where necessary, an inductive approach was used. Tests of association were also carried out using Chi-Square and instances where the cell distribution criteria were violated even after collapsing some categories (with small counts in some cells) Fisher's Exact test was then applied. A short Likert scale was included in Study 2.

Exploratory factor analysis was used to identify the constructs and then Cronbach's Alpha was run to test the reliability of the scale.

3.10 Pilot Study

The pilot study (n= 20) was carried out at Chilenje hospital, a health facility in Lusaka which serves middle and low-income earners. The purpose of the pilot study was to test the instrument and to:

a) Establish the average time required to administer the questionnaire
b) Identify practical challenges of collecting data
c) Assess the data collection skills of the research assistants and
d) Gauge whether the data were authentic or not (i.e. not filled in by RAs pretending to be different respondents).

First, based on the collected data and the response rate, it was evident that the instrument was capable of generating data required to address the research questions for Study 1. Although the PI was not always present when data was collected, on the spot or impromptu checks were randomly made to ensure that the RAs collected data from respondents and did not fill questionnaires themselves. RAs were also asked to submit reports on their personal experiences during the data-collection process. The PI checked the data using basic analysis to see whether the data made sense and were believable (i.e. not "cooked data" or made up by the RA).

Second, basic descriptive analysis of the profiles of the respondents revealed that a majority of the respondents were from emerging residential areas (i.e. mix of income levels) such as Chalala, Shantumbu, New Chilenge, Salama Park and Woodlands Extension (Figure 34). These areas are characterised by privately built houses of varying size, design and quality. Such areas accommodate both middle- and high-income earners but low-income earners are likely to temporary reside in such areas as caretakers during the construction phase. This revealed the need to subdivide the urban areas in the subsequent main studies into four income levels namely, high, middle, mixed and low (peri-urban/compounds) to reflect current settlement patterns. This was important given that peri-urban settlement patterns have entered the discourse of the socioeconomic development of Sub-Saharan Africa (Wehrmann, 2008). However, these have not been incorporated in the DHS.

Source: Google Maps

Figure 34: Emerging residential areas in Lusaka city, 2019

Third, the majority of the respondents were female (80 per cent) aged 30-39 (40 per cent) with at least secondary level education (50 per cent) but might not have completed this level. This profile reflects a predominantly urban population because a majority of Zambians females (60 per cent) have either no formal education or only some primary education (Zambia Statistics Agency et al., 2019).

The common source of income among the respondents was informal employment. Informal employment in this case refers to one's own business such as plumbing, brick laying, gardening, selling of second-hand clothes etc. Micro-Small Medium Enterprises (Micro SMEs) popularly known as "tutemba" are common in Zambia, especially along railway lines (Conway & Shah, 2010). Micro SMEs are small informal business operations that employ fewer than five people, mainly in the agriculture and retail trading such as selling second-hand clothes or survival foods (e.g. dry beans, fish and groundnuts etc.) and fresh vegetables and fruits at markets or along main streets (Conway & Shah, 2010; Mbuta, 2007; Zambia Development Agency, 2015).

The level of education can also explain the possible misunderstanding of the menu of answers to some of the questions in the instrument. For instance, the pattern of responses to the question "What is your main household income?" suggested that the question was either misunderstood or not clear. This is because some of the responses under the option "other" sources of income included: own business, self-employment, bricklayer and "salaula" (i.e.

sale of second-hand clothes). This shows that the suggested optional answers were not clear because these responses fall under the category of informal employment. Therefore, the wording of the suggested responses in the instrument was revised and tested using a small sample (n=5).

Lastly, the average time recorded by the two RAs varied between 5 and 8 minutes, which was significantly shorter than the Principal Investigator's recorded time of an average of 15 minutes. This indicated that the RAs were not taking time on the probing questions and this was evident by the number of blank spaces on the sections that required RAs to probe the respondents. Therefore, probing skills and techniques were identified as key areas of re-training for the RAs. The need also emerged for supervision in the field for quality checking as data was being collected. Thus, impromptu follow-ups on the data collection was key for the PI throughout the process. The RAs reported possible data collection challenges:

1) Possible language barriers due to the diversity of languages in Lusaka province. Nevertheless, the RAs could speak the two main languages, Bemba and Nyanja. Thus, when interviewing respondents who could not speak English, RAs were trained to translate the questions on the spot into either Bemba or Nyanja. Equally, answers were translated into English on the spot and recorded, with a note on the questionnaire or interview form, indicating the language.
2) Respondents expressed discomfort in discussing fertility issues. Thus, confidentially and anonymity were emphasised to prospective respondents from the start and where necessary re-emphasised during the interview.
3) The perception by male respondents that family planning is a topic for women. Therefore, when recruiting male respondents, additional explanation was necessary about the focus of the study and the themes of the interview.

3.11 Study 1

Data for this study was collected from Lusaka district between January and March 2019. Permission to collect data from the purposively selected public health facilities (Table 10) was obtained from the Lusaka District Health Office. Although permission was given by the Lusaka District Health Office to collect data from the health facilities, it was required that the persons in charge of the respective health facilities be informed by the research team before commencing data collection. It was the responsibility of the PI to inform the person in charge at the health facility by giving them a copy of the letter of clearance from the District Health Office (Appendix 4) and the questionnaire (Appendix 10).

In addition, small low-cost donations (e.g. vinegar used for cervical cancer screening, methylated spirit and hand-washing soap) were provided to the health facility. This gesture was greatly appreciated and the health facility manager instructed the nurses to help recruit respondents thereby making it easy for RAs to collect data. The respondents were also compensated (mobile telephone talk time/minutes worth 5 ZMW or 1.7 AUD and refreshments e.g. water) for taking part in the study.

Table 10: Data collection points for Study 1

Data Collection Point	Catchment Area	No. of Respondents	Type
Chilenje Hospital	Urban-Middle	37 (excluding pilot)	Public
Bauleni Hospital	Peri-urban	37	Public
UNHCR	Peri-urban	38	Public
Medcross Hospital	Urban- High Income	38	Private

During this study, the majority of the female respondents were recruited from the cervical cancer screening points and family planning clinics within the health facilities. The male respondents were recruited from the waiting areas and Outpatient Department (OPD) of the same facilities (Table 10).

The instrument took an average of 40 minutes to complete (Appendix 10). A number of respondents became tired in the process but very few dropped out. As a result, only a few respondents could be interviewed in a day, thereby prolonging the duration of the data collection period. However, the instrument could not be shortened because the data was required to answer the research question: how does pre-MC influence fertility decisions and behaviour?

3.12 Sample Characteristics for Study 1

The gender distribution for this study was 21 per cent males and 79 per cent females, which failed to meet the set gender quotas of 40 per cent and 60 per cent respectively (Table 11). This is because many of the potential male respondents refused to take part in the study because of the topics of discussion. Furthermore, a number of them were not willing to discuss these topics with a female RA. These formed learning points for data collection and need to change strategy for Study 2. All the respondents were Christian despite collecting data from a health facility, the Medcross hospital that had a mix of religions attending including Muslims and Hindus.

Furthermore, most of the data was collected from health facilities that serve peri-urban areas. This may explain why the majority (47 per cent) of the respondents were from low-income areas and had a secondary level of education (44 per cent). In peri-urban areas also known as compounds, many of the people who are in formal employment, work as house servants, bus drivers, shopkeepers, manual workers or are in informal employment (run their own small businesses classified as micro-small to medium enterprises) (i.e. micro SMEs) such as selling of second-hand clothes, fresh fruits and vegetables, charcoal etc.

The common sources of income among the respondents were formal employment (30 per cent) and informal employment (25 per cent). Half of the respondents were married under customary law (i.e. customary marriage) and of the eight main tribes, 18 per cent of the respondents indicated that they were Bemba and a majority (40 per cent) belonged to other tribes. This shows the diversity of linguistic ethnic groups within the district. These demographic factors (type of marriage, tribe and religion) were captured to facilitate possible variances in the prevalence of pre-MC in Zambian society.

Table 11: Sample characteristics for Study 1

Factor		**Female**		**Male**		**Total**	
		Respondents	%	Respondents	%	Respondents	%
Residence	*High Income*	14	93%	1	7%	15	10%
	Middle Income	25	86%	4	14%	29	19%
	Low Income	54	77%	16	23%	70	47%
	Mixed Income	25	71%	10	29%	35	23%
Total		118	79%	31	21%	149	100 %
Age	*15-20*	4	100 %	0	0%	4	3%
	21-29	35	78%	10	22%	45	30%
	30-39	39	81%	9	19%	48	32%
	40-49	19	63%	11	37%	30	20%
	50-59	12	92%	1	8%	13	9%
	60+	9	100 %	0	0%	9	6%
Total		118	79%	31	21%	149	100 %
Education	*Never been to school*	3	100 %	0	0%	3	2%
	Primary	38	93%	3	7%	41	28%
	Secondary	49	75%	16	25%	65	44%
	College	16	80%	5	25%	21	14%

	University	13	68%	6	32%	19	13%
Total		119	80%	31	21%	149	100 %
Religion*	*Christian*	118	79%	31	21%	149	100 %
Household Income	*My job (Formal employment)*	24	1%	21	47%	45	30%
	Spouse/Partner job (Formal employment)	29	97%	1	0%	30	20%
	My business (Self-employed)	29	78%	8	22%	37	25%
	Partner/Spouse/Partner business (Self-employed)	29	97%	1	3%	30	20%
	Other	7	100 %	0	0%	7	5%
Total		118	79%	31	21%	149	100 %
Religion	*Anglican*	1	100 %	0	0%	1	1%
	Baptist	2	67%	1	33%	3	2%
	Catholic	21	75%	7	25%	28	19%
	Jehovah's Witness	9	100 %	0	0%	9	6%
	New Apostolic	6	75%	2	25%	8	5%
	Pentecost	43	84%	8	16%	51	34%
	Seventh Day Adventist	13	65%	7	35%	20	13%
	United Church of Zambia	12	80%	3	20%	15	10%
	Prefer not to say	0	0%	1	100 %	1	1%
	Other	11	85%	2	15%	13	9%
Total		118	79%	31	21%	149	100 %
Tribe	*Bemba*	21	78%	6	22%	27	18%
	Chewa	12	75%	4	25%	16	11%
	Kaonde	3	100 %	0	0%	3	2%
	Lozi	4	100 %	0	0%	4	3%
	Lunda	5	83%	1	17%	6	4%
	Luvale	3	60%	2	40%	5	3%
	Ngoni	10	83%	2	17%	12	8%
	Tonga	10	63%	6	38%	16	11%
	Other	50	83%	10	17%	60	40%
Total		118	79%	31	21%	149	100 %
	Engaged	6	55%	5	45%	11	7%

Relationship Status	*Customary Marriage*	60	80%	15	20%	75	50%
	Religious Marriage	18	78%	5	22%	23	15%
	Civil Marriage	12	80%	3	20%	15	10%
	Widowed	16	100 %	0	0%	16	11%
	Divorced	6	75%	2	25%	8	5%
	Prefer not to say	0	0%	1	100 %	1	1%
Total		118	79%	31	21%	149	100 %

Overall, the sample had a good mix of respondents from different age groups, education levels, tribes and relationship status. The sample represents the average demographic characteristics of the population in Lusaka province (Zambia Statistics Agency et al., 2019). Notably, some respondents included in this study were aged 50 and above. This age group of respondents provided useful information about historical practices or behaviours in terms of both fertility and pre-MC. Therefore, this sample was reliable for purposes of exploring the potential influence of pre-MC on fertility decisions and behaviour, across different generations, in Lusaka.

3.13 Study 2

This study was carried out in Lusaka district between August and October 2019. Data was collected from the Planned Parenthood Association of Zambia (PPAZ) clinic and two outreach sites. The PPAZ clinic serves middle- to high-income people in urban Lusaka and is located near the central business district (CBD) area. The PPAZ outreach sites serve the low-income population (i.e. peri-urban areas). Two outreach sites where purposively selected: Mandevu clinic and Mahopo health post (Table 12).

Table 12: Data collection points for Study 2

Data collection point	Income level	Description
PPAZ Clinic	Middle-High Income	Urban
Mandevu Clinic	Low Income	Peri-urban
Mahopo	Low Income	Rural (transforming)

The planned sample size was 36, subject to reaching the saturation point i.e. the point at which no new themes emerged from the data. This sample size was determined using the principle of precedence –average sample size used in similar previous studies. Once recruited, the respondents were screened for age (≥ 15) before obtaining consent. An

interview form (Appendix 11) comprising five sections was used to conduct the semistructured interviews. The conceptual framework informed the sections of the interview form (Chapter 2). The interviews took an average of 45 minutes and made it easy to enter the data into Epi Info. The data was exported from Epi Info to Excel for cleaning, sorting and arranging in readiness for analysis.

3.14 Sample Characteristics for Study 2

Although the saturation point was reached with a sample size of 36, it was imperative to reach the saturation point with a sample comprising respondents with a mix of demographic profiles. This was important because of the need to construct a decision-making framework that could be applied to different segments of a population. In the initial sample (n=36) only a small proportion of respondents with tertiary education, middle to high income were included. Therefore, an additional 13 respondents were purposively interviewed to increase this proportion of respondents. However, no significant themes emerged from the additional profile of respondents. Thus, the sample of 49 was adequate and strikes a balance between the need for an adequate sample size using the saturation point theory (Vasileiou, Barnett, Thorpe, & Young, 2018) and the need to obtain a sample that has different proportions of respondents with different demographic profiles.

The final sample was comprised of 19 (39 per cent) males and 30 (61 per cent) females (Table 13). More than half (59 per cent) of the respondents were from peri-urban areas or compounds and were aged 20-39 (68 per cent). Nearly all (98 per cent) respondents had some formal education and the highest level of education for the majority of respondents was secondary (43 per cent). The main source of income was informal employment (41 per cent).

Table 13: Sample characteristics for Study 2

Factor		**Gender**		**Total**	
		Female	Male	Count	%
Area	*Urban-high income*	1	2	3	6%
	Urban-middle income	3	1	4	8%
	Urban-low income (peri-urban)	19	10	29	59%
	Urban-mixed income	7	6	13	27%
Total		30	19	49	100%
Age	*15-29*	1	0	1	2%
	20-29	15	3	18	37%
	30-39	7	8	15	31%
	40-49	3	5	8	16%
	50-59	3	2	5	10%
	60+	1	1	2	4%
Total		30	19	49	100%
Education	*Never been to school*	1	0	1	2%
	Primary	8	1	9	18%
	Junior Secondary	3	0	3	6%
	Senior Secondary	8	10	18	37%
	College	8	5	13	27%
	University	2	3	5	10%
Total		30	19	49	100%
Household Income	*Dependant*	1	0	1	2%
	Unemployed	8	4	12	24%
	Employed	8	8	16	33%
	Self-employed (Business)	13	7	20	41%
Total		30	19	49	100%

3.15 Study 3

This study was carried out from November 2019 to January 2020. The data was collected from four of the eight districts in Lusaka province: Lusaka, Chongwe, Chilanga and Kafue. Lusaka district is the smallest in terms of area but has the highest population (densely populated). Chongwe district is predominantly rural, the main economic activity is agriculture and most of the land in the district is traditional land.

However, Chongwe district is transforming at a fast pace because of its close proximity to Lusaka, the capital city of Zambia, which is expanding into the outskirts and land is being acquired by individuals at a fast pace. Equally, Kafue and Chilanga district are currently experiencing fast expansion because of the increasing demand for residential land. However, Kafue and Chilanga districts are predominantly urban. Kafue is mostly made up of middle- and low-income areas while Chilanga has a mix of high, middle- and low-income areas.

Unlike Study 1 and Study 2, in Study 3 data was collected from areas prone to social interactions or casual conversations e.g. markets and bus stations. Therefore, courtesy calls were paid to station managers. Table 14 shows the specific data collection points for each of the districts.

Table 14: Data collection points for Study 3

District	Data collection point	Reason
Lusaka	Kalundu Market	Located in a high residential area
	East Park Shopping Centre	Located in a high residential area
	Downtown Bus Station	High traffic of people going to Chilanga and Kafue
Kafue	Central Business area	High traffic of a mix of people and easily accessible
Chongwe	Chongwe market	High traffic and convenient
	Chongwe Bus Station	High traffic of people going to Lusaka
Chilanga	Central Business area	High traffic of a mix of people and easily accessible

A two-tier sampling method was used. The first stage involved purposive selection of the data collection points while the second used simple random sampling technique. The study instrument (Appendix 12) was pre-tested and the results were used to revise it. For example, three questions were re-phrased in order to make them clearer. It was also observed that the response rate for those sent by email was low compared with those administered on a face-to-face basis. Therefore, it was decided that data collection would be restricted to face-to-face interviewer-administered questionnaires to attain a high response rate.

3.16 Sample Characteristics for Study 3

A mix of respondents were recruited from the four districts: Chilanga (24 per cent), Chongwe (18 per cent), Kafue (23 per cent) and Lusaka (34per cent)- (Table 15). Unlike the first two studies, this sample achieved the set gender quotas: 42 per cent male and 58 per cent females. Many studies on fertility such as the Demographic and Health Surveys predominantly cover respondents who are married or in a unionised (e.g. cohabiting) relationship. This study captured a good proportion of single respondents (41 per cent). Similar to Studies 1 and 2, the majority of the respondents were aged 20-39 (72 per cent); more than half (54 per cent) had a secondary level of education and were either in formal or informal employment (44 per cent). A mix of urban residential areas was captured: high income (13 per cent), middle income (27 per cent), low-income or peri-urban (24 per cent), mixed income 14 per cent as well as rural (18 per cent). This sample was representative of

Lusaka province (Zambia Statistics Agency et al., 2019) and confirms the key fertility statistics for Lusaka province as reported in the Zambian 2018 DHS: FP awareness (97 per cent), ideal fertility rate (4 births), ideal birth interval or space (3-4 years) and commonly used contraceptives (injecatbles at 26 per cent) which are discussed in the later chapters of this thesis.

Table 15: Sample Characteristics for Study 3

Factor		**District**				**Total**	
		Chilanga	Chongwe	Kafue	Lusaka	Count	%
Gender	*Female*	30	19	23	35	107	58%
	Male	15	15	19	28	77	42%
Total		45	34	42	63	184	100%
Area	*Urban-high income*	0	0	9	15	24	13%
	Urban-middle income	16	0	14	20	50	27%
	Urban-low income	7	1	19	17	44	24%
	Urban-mixed income	16	0	0	10	26	14%
	Rural	6	33	0	1	40	22%
Total		45	34	42	63	184	100%
Age	*15-19*	10	2	3	1	16	9%
	20-29	14	9	27	24	74	40%
	30-39	12	11	6	29	58	32%
	40-49	6	5	5	8	24	13%
	50-59	3	4	1	1	9	5%
	60+	0	3	0	0	3	2%
Total		45	34	42	63	184	100%
Education	*Never been to school*	0	3	1	1	5	3%
	Primary	2	5	3	4	14	8%
	Junior Secondary	13	13	5	4	35	19%
	Senior Secondary	18	8	22	16	64	35%
	College	10	4	6	10	30	16%
	University	2	1	5	26	34	18%
	Prefer not to say	0	0	0	2	2	1%
Total		45	34	42	63	184	100%
Income	*Dependant*	7	6	3	6	22	12%
	Salary	18	8	20	35	81	44%
	Business	20	20	19	22	81	44%
Total		45	34	42	63	184	100%
Marital Status	*Single*	24	3	24	24	75	41%
	Engaged	0	3	4	7	14	8%
	Married	13	22	11	26	72	39%
	On Separation	3	1	2	2	8	4%
	Widowed	2	3	1	0	6	3%
	Divorced	3	2	0	4	9	5%
Total		45	34	42	63	184	100%

3.17 Challenges

The administration and nature of the project on which this thesis is based posed challenges in terms of scheduling and projecting timelines for the data collection. Firstly, two separate Ethical Clearances were required from the host university in Australia and from an

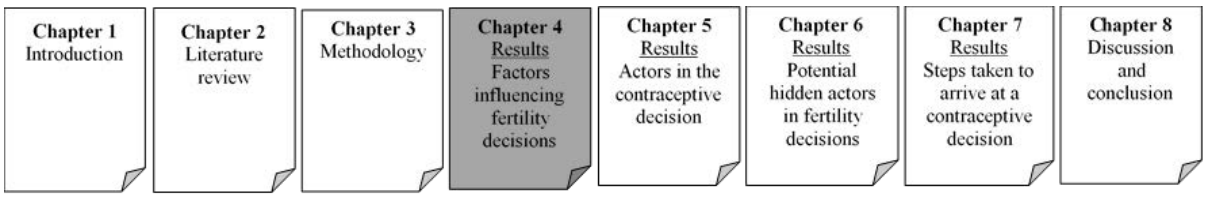
independent ethical clearance authority from the data collection site (Zambia). Additional clearance was also required from the Zambia National Health Research Authority because of the topic that the project centred on, namely reproductive health.

This latter need was not anticipated at the stage when the project was being designed. Secondly, significant changes in the macro environment of the data collection site (Zambia) resulting in the depreciation of the Zambian Kwacha (currency) and the price for fuel affected the costing and affordability of the original project design. Thus, measures to counter these challenges were inevitable in successfully undertaking the project.

3.18 Chapter Summary

This chapter outlines the overall research plan, procedures and philosophical assumptions, which inform the three studies contained in this thesis. The pragmatic philosophy stance is justified within the context of the study – the social problem of high fertility in Sub-Saharan countries such as Zambia. The strategy and procedures are also explained to show the relevance of the selected options in view of the nature of the research subjects (people). The importance of demographic variables in fertility research is addressed under the sample and the sample characteristics of the three studies are presented. The next four chapters (Chapters 4, 5, 6 and 7) present the analysis and results of the data on which this thesis is based.

Chapter 4: Factors that Influence Fertility Decisions



4.1 Introduction

This chapter addresses the first research question: which factors and/or actors affect the respective fertility decisions? It presents results on the factors that drive the desire for children, gender preference and specific factors that influence fertility decisions in Lusaka province, Zambia. Given that fertility decisions and behaviour are not easy to understand or explain because of the biological, psychological, social, economic, cultural and political context in which they occur (Huinink et al., 2015), this chapter combines descriptive statistics and qualitative data to understand fertility decisions better. The data collection and processing procedures were explained in Chapter 3. Table 16 presents the key statistics based on data collected from all three studies on which this thesis is based. The descriptive statics shows the gender preference, current fertility and contraceptive prevalence.

Table 16: Combined key statistics on FP from the three studies in Lusaka province, Zambia, 2019-2020.

Variable	**Area**					**Total**	
	High Income	Middle Income	Low Income	Mixed Income	Rural	Count	%
Preferred Gender (*n*=382)							
Boy	9	24	35	9	9	86	23%
Girl	2	16	25	9	9	61	16%
Up to God	5	5	4	2	6	22	6%
Does not matter	26	37	79	52	14	208	54%
Not sure	0	1	0	2	2	5	1%
Total	42	83	143	74	40	382	100%
Current no. of children (*n*=382)							
0 (None)	12	22	14	11	6	65	17%
1 Child	9	12	16	8	5	50	13%
2 Children	8	13	26	16	7	70	18%
3 Children	6	18	23	11	8	66	17%
4 Children	5	8	39	17	6	75	20%
≥ 5 Children	2	10	25	11	8	56	15%
Total	42	83	143	74	40	382	100%
Method (*n*=382)							
Condom	14	19	26	13	9	81	21%
Emergency pill	1	0	1	0	0	2	1%

Implant	3	8	8	5	5	29	8%
Injection	7	15	49	18	10	99	26%
IUD	5	4	1	3	2	15	4%
Pill	3	15	24	17	13	72	19%
*Natural**	6	16	16	9	0	47	12%
Nothing	2	4	14	5	1	26	7%
Not sure	1	2	4	4	0	11	3%
Total	42	83	143	74	40	382	100%
Ever Heard of FP (*n*=184)							
Yes	24	42	50	25	37	178	97%
No	0	1	0	1	3	5	3%
Not sure	0	1	0	0	0	1	1%
	24	44	50	26	40	184	100%
Plan to/currently use FP (*n*=184)							
Yes	20	41	48	23	31	163	89%
No	3	2	0	2	8	15	8%
Not sure	1	1	2	1	1	6	3%
	24	44	50	26	40	184	100%
Previously used FP (*n*=184)							
Yes	22	40	46	23	38	169	92%
No	1	4	3	2	2	12	7%
Not sure	1	0	1	1	0	3	2%
	24	44	50	26	40	184	100%

Note: Natural* = Withdraw, Breastfeeding, Safe days, Abstinence

Data source: Study 1 (*n*=49), Study 2 (*n*=149) and Study 3 (*n*=184)

4.2 Desire for Children

Nearly all (97 per cent) respondents reported having a child (or children) or expressed the desire to have a child. A few respondents (3 per cent) expressed the desire to have a child (or children) but could not have children due to medical reasons or for socially uncommon reasons such as fear of deforming one's body. The thematic analysis revealed that the desire to have a child (or children) is mainly driven by religious and social norms making it mandatory or "automatic" for people to have children. Due to this social standard, respondents expressed surprise at someone asking why they wanted/planned/ to have a child (or children):

> *I have never really thought about it but I guess it's because I am married and it is expected of me. I also see no reason why I should not have children because it is a beautiful feeling and they can care for me in my old age. (**R45, Female: Study 2**).*

Table 17 shows the different reasons for having or wanting to have a child (or children). The reasons are Christian religious beliefs, social security, social expectation, continuity, need to please others and fulfilment of personal feelings or goals. As already noted, religious beliefs – it being a heavenly command and children being a gift from God, and the need for continuity of humankind – were the dominant reasons followed by the need

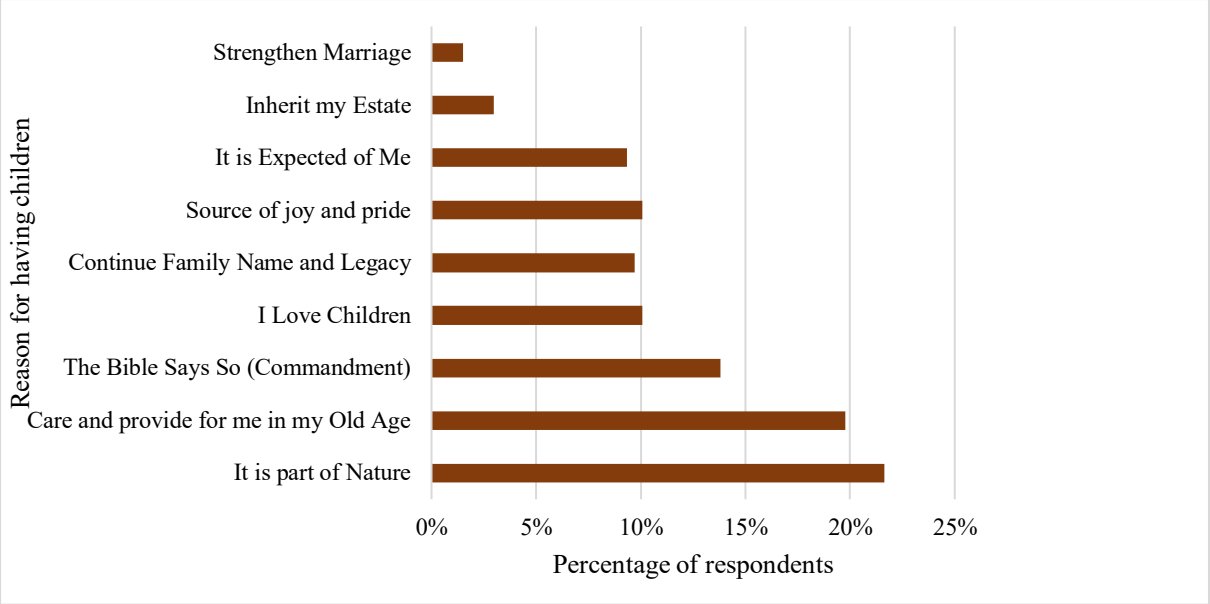
for social security – to be provided and cared for in old age. According to the descriptive statistics (Figure 35) the main reasons for having children are nature or need for continuity of humankind (31.5 per cent), social security (28.8 per cent) and religious norms (20.1 per cent).

Unlike in the early years of FP programs in Africa, during which the desire for children was driven mainly by the need for continuity (legacy, family name/kinship), the data from all three studies on which this thesis is based showed different reasons. Religious norms, nature and the need for social security were stated as the main reasons for having children. Although continuity remains one of the factors, this is driven more by religious beliefs and the need for continued existence of humankind rather than the need for legacy, family name or kinship (Figure 35).

Table 17: Thematic analysis of the reasons for having children, Lusaka province, Zambia, 2019.

Theme	Verbatim examples
Religious norm: *It being a commandment, and children gift/blessing*.	It is part of the gospel; the Bible says go and fill the earth … (**R2, Female: Study 1**). It is a sense of pride and a blessing from God to a couple (**R149, Males: Study 1).** It is a gift from God and God said we should multiply (**R20, Male: Study 2**).
Social security	I realised I had failed with education so I chose to have children so that they can get educated and then help me in the future (**R14, Male: Study 1**). So that when I am old they can take care of me (**R12, Female: Study 2**). They are an investment; they will look after family and help out especially in old age (**R69, Female: Study 1**).
Social expectation: *Respect, validation and marital obligation*	It's mainly for validation and respect. It's good to be called someone's parent ... (**R16, Male: Study 2**). It is kind of funny but it's a marital obligation and culturally it is not right not to have children because it is automatic, when you are married you have children (**R5, Female: Study 2**). Well it is natural and expected. Why shouldn't I have children? People ask too many questions and wonder if you do not have kids (**R46, Male: Study 2**). Having children earns you respect in society and being called a mother or father is just a great feeling (**R21, Female: Study 1**).
Continuity: *Family name and legacy, natural law of inheritance of estate*	So that the family can grow bigger and the surnames should live on to the next generation (**R9, Female: Study 2**). ... They are the ones to inherit what we are working for ... (**R21, Female: Study 2**). … I wanted to give my parents grandchildren and I wanted my name to live on (**R27, Male: Study 2**).
Please others *e.g. Spouse/partner, in-laws or parents*	… My in-laws tell us to have more children (**R33, Female: Study 1**). Because my husband needed a child so I just wanted to make him happy **(R7, Female: Study 2**).
Personal feelings desires and experience	I love children and I wanted to know what it feels like to have my own children (**R35, Female: Study 2**). I find them to be really cute, it also changes you and there is no person that you will love more than your own kids (**R63, Female: Study 1**). Being born alone is not a nice experience so I have told myself that I will have more children (**R23, Female: Study 2**).

Data source: Studies 1 and 2



Data source: Study 3

Figure 35: Reasons for having children as reported in Study 3 (more than one response possible), Lusaka Province, 2019-2020.

4.3 Family Size Decision

The individual family size decision is important in projecting total fertility rate of a given population. Of greater importance are the factors taken into consideration when making this decision. From the qualitative data, two dominant themes emerged as key factors: the ability to provide, care and nurture the child (or children); and risk of child mortality. This was evident from the respondents' expressed desire to strike a balance between the ability to provide (living costs) and the risk of the child (or children) dying, in coming up with the ideal number of children:

> *It is not healthy to have children one after another but again one should not have too few or too many. It is good to balance and have children you can afford to keep.* (**R1, Female: Study 1**).
> *I think five is good in case of death some can still remain* (**R 19, Male: Study 2**).

The ability to provide has become a key factor in the modernised Zambian society. Though the roles and responsibilities of a man and woman in a household remain gender-aligned, there is flexibility on income and house chores as explained by respondents:

> *They both need to find money needed at home for things like food, rent, school fees and so on. Things have changed … not the way it used to be where a man is the one who has to provide and the woman remains at home* (**R4, Female: Study 2**).

In the modern world I think they can both perform similar roles because a man just like a woman can cook or sweep (**R20, Male: Study 2**).

Women should help with house chores and do something like business to bring income to assist the husband. A husband should provide for the family and ensure the family has food (**R40, Female: Study 2**).

Another factor that is considered in determining the family size or attainment of the fertility goal is gender preference. However, the results from Study 2 indicate that more than half (54 per cent) of the respondents had no gender preference for a child. This is because they were of the view that humankind has no control of the gender of the child – it is up to nature or God: "It is all in God's hands just like I wanted a male child and God gave me two girls" (R37, Female: Study 2). However, the desire for gender balance was evident and resonates with the reasons advanced by respondents who prefer one gender over another:

... it doesn't really matter but when you consider certain things then one can make a preference. For example, I think the girls tend to care so much about the family and parents but it is the boys that carry the family name ... (**R46, Male: Study 2**).

Both genders because there is a way to raise children to become how you want them to be. A boy can be raised and shown how to work like a girl and the same goes for the girl ... (**R43, Female: Study 2**).

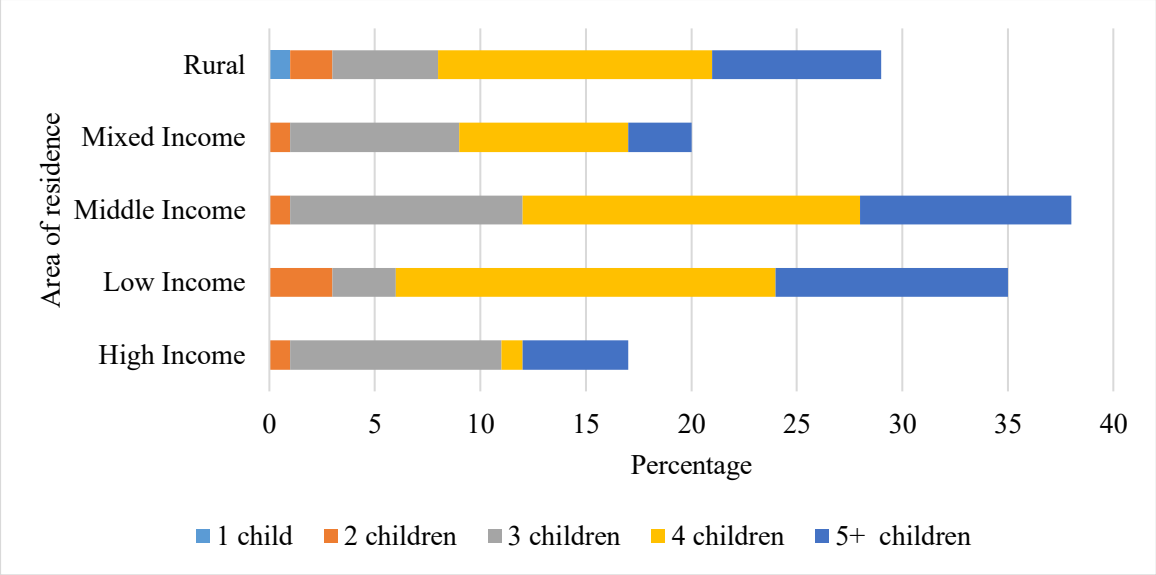
A majority of the respondents (Figure 36) stated that the ideal fertility size is four births per woman. Noticeably, few respondents indicated an ideal family size of two children or less. A number of respondents were of the view that:

... one should not have too few or too many. It is good to balance and have children you can afford to keep **(R91, Female: Study 3**).

I think four is ok because most things today are expensive including education, food and accommodation (**R2, Female: Study 2**).

I think it's difficult to state an actual number because I think one can have children as long as they can afford ... as long as they are not a burden (**R13, Female: Study 2**).

From the reasons given for the ideal family size it is reasonable to conclude that the decision is a logical one. Although FP programs have a target of reducing fertility to 2.1 births/woman, it is important to establish the rationale for the ideal fertility size in a given population or society to avoid appearing intrusive and avoid resistance because it is evident that the ideal fertility is not only a logical decision but context specific.



Data source: Study 3- excluding respondents who indicated that they were "Not Sure" (n=139)

Figure 36: Ideal Family Size as reported by respondents in Study 3, Zambian contraceptive decision-making study, 2019.

DHS data in Zambia and other countries show a difference between actual and desired fertility. Therefore, in this study a test of association was undertaken. The Chi-square test results show significant statistical evidence of an association between current and desired fertility [$X^2(9, N=233) = 84.321$, $p = 0.001$]. Specifically, the results show how current and desired fertility relate to the ideal fertility rate. Table 18 shows that the majority of the respondents with a current fertility of four or more do not intend to have more children: they have attained their fertility goal. Conversely, those with one child or none wanted to have between two and four children: they have not attained their fertility goal. Therefore, there is consistency between ideal family size, current and desired fertility.

Table 18: Cross tabulation for current and desired fertility, Lusaka province, 2019-2020, Zambia

Current Fertility	**Desired Fertility**				**Total**
	Zero children	*1 to 2 children*	*3 to 4 children*	*5+ children*	
Zero children	5	12	41	5	63
1 to 2 children	16	30	34	21	101
3 to 4 children	28	1	10	11	50
5+ children	13	4	0	2	19
Total	62	47	85	39	233

Data source: Studies 2 and 3 (*n*=233)

When running the Chi-Square test, the condition of distribution should be met, that is, minimum expected cell frequency (McHugh, 2013; Pallant, 2005). In this case, it was observed that some cells had lower counts than the expected count of five. This is because of the few respondents whose responses were different from the majority: for example, a majority of respondents with a current fertility of five or more children did not want to have any more but a few respondents still wanted to have one or two more (Table 19). However, the condition on cell distribution was not violated because more than 80 per cent of the cells met the cell distribution condition (Kim, 2017) (Table 19).

In addition to testing the relationship between current and desired fertility, tests of association between demographic factors (age, gender, residential area, education, marital status) desired and current fertility were carried out. The Chi-square test revealed that there was no statistical evidence of association between gender and desired [X^2 (3, N=233) = 4.630, p= 0.201] or current [X^2 (3, N=233) = 4.646, p= 0.200] fertility. However, there was strong statistical evidence ($p < 0.005$) to support the association between other demographic factors (i.e. age, residential area, education and marital status) and current or desired fertility- Table 19.

Table 19: Chi-square test results on demographic factors, desired and current fertility, Lusaka province, 2019-2020, Zambia

	Desired fertility (*n*=233)			**Current fertility** (*n*=233)		
Demographic factor	*value*	*df*	*p*	*value*	*df*	*p*
Age	44.928	6	0.001	141.341	6	0.001
Gender	4.6.30	3	**0.201**	4.646	3	**0.200**
Residential area	38.078	12	0.001	35.952	12	0.001
Education	63.83	9	0.001	55.015	9	0.001
Marital status	58.544	6	0.001	126.248	6	0.001

Data source: Studies 2 and 3

For example, several studies have established the relationship between women's empowerment, autonomy, education and lower fertility (Sujatha & Reddy, 2009; Upadhyay et al., 2014). Shapiro (2012) also established that increasing secondary and higher education for women is instrumental in the fertility transition of the Sub-Saharan region. In a study carried out in Australia, Weston et al. (2004) found that a stable partnership or marriage is one of the factors that influence a person's decision to have a child or not. And Shin (2016)

report a relationship between income and fertility. Thus, from the results of this study and extant research, it is clear that some demographic factors such as education and income affect desired fertility while others such as gender may have no, or a weak, relationship.

4.4 Birth Interval Decision

The birth interval or space is another important decision for individuals or couples who elect to have children. Like other studies that report that birth spacing has been practiced from historic time, some responded explained that:

> *Long ago there were no contraceptives and our parents or grandmothers used to teach us how to avoid pregnancy naturally after giving birth like breastfeeding, herbs, safe days, withdraw. We also used to take some herbs to cleanse ourselves before having sex with our husbands* (**R125, Female: Study 1**).

> *That is what was available in our days. I also noticed that when I was breastfeeding my fertility would be low. I also listened to what my grandmother used to tell me about the method of tying a cloth around my waist but it seemed to be less effective* (**R2, Female; Study 1**).

Respondents explained that birth interval or spacing allows them to give attention to and care for the child(ren), offers health benefits, reduces financial pressure and allows the woman to do other things:

> *So that the breastfeeding is done properly and to give time to the woman to heal* (**R135, Male: Study 1).**

> *To give you time to raise funds for the next child and also give time for the uterus to heal* (**R121, Female: Study 1**).

> *Helps me to wait for my kids to grow older so that I also have time to maintain myself as I don't want to lose shape* (**R7, Female: Study 2**).

These reasons cited by the respondents for birth spacing show a shift from the widely reported health benefits to reasons that are characteristic of a modernising society. However, unlike the family size decision, the birth interval decision is often not pre-planned:

> *It just used to happen not that we really used to think about it we only used to wait until the child grows a bit but if it happens it happens* (**R12, Female: Study 2**).

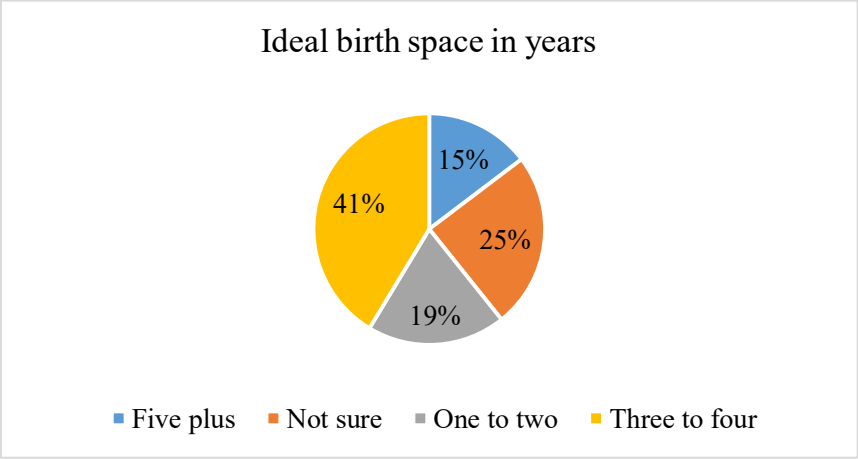
> *My husband felt the time was right to have another child* (**R15, Female: Study 2**).

This ad hoc approach to birth spacing, among other reasons, may explain the variations in birth intervals: some intervals are short while others are too long:

> *Even though they are closely spaced I like it because they are growing together* (**R115, Female: Study 3**).

> *They are seven years apart and they were all given attention* (**R128, Female: Study 3**).

However, for some respondents the short or long birth intervals are a personal choice or preference. Results from other studies (Mace & Sear, 1997; Nath, Land, & Goswami, 1999) show that the birth interval may be influenced by the parity or status of the woman, gender of the child and first birth interval. For example, the study by Mace and Sear (1997) which was carried out in Kenya among a traditional community, shows that the birth interval after the birth of a boy was longer than after a girl. Nath et al. (1999) studying an urban Indian society, note that the education level and probability of getting paid employment determines the first birth interval. This thesis did not explore the reasons for the variances but the data suggests that the majority (88.48 per cent) of the respondents reported an ideal birth interval of three to four years (Figure 37) which is consistent with the Zambia 2018 DHS report.



Data source: All three studies (n=382)

Figure 37: Ideal Birth Interval (in years) by percentage of as respondents, Lusaka province, 2019-2020, Zambia

A Chi-square test of association between demographic variables and the birth interval was carried out (Table 20). The results show no statistically significant evidence of association between the birth interval, age and gender ($p > 0.005$). However, there was

statically strong evidence ($p < 0.005$) of an association between birth interval and other demographic factors such as residential area, marital status and education (Table 20).

Table 20: Chi-square test between demographic factors and ideal birth interval, Lusaka province, 2010-2020, Zambia

Demographic factor	Ideal Birth interval or space (n=382)		
	value	*df*	*p*
Age	9.957	6	**0.126**
Gender	3.822	3	**0.281**
Residential area	38.646	12	0.001
Education	20.473	6	0.002
Marital status	51.662	9	0.001

Data source: All three studies

The residential area and education relate to income and opportunity costs which resonate with the importance of the ability to provide, care and nurture the child. Marital status is also key because partnership is an important factor in fertility decisions as explained by respondents:

> *Because I am not yet married and do not have children but I plan to have kids* (**R42, Female: Study 3).**

> *My husband died and I have not remarried so I am happy I have no kids outside marriage* (**R123, Female: Study 3**).

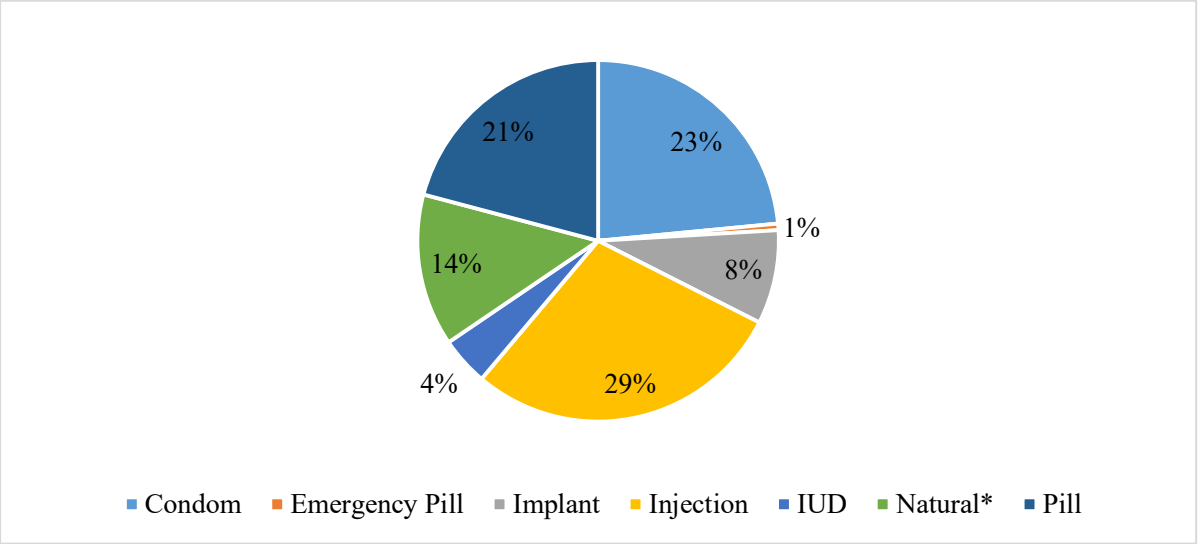
4.5 Contraceptive Decision

The need to prevent or avoid pregnancy is the basis for contraception (Aliyu, 2018). Respondents were asked if they do or use anything to prevent pregnancy. Across all three studies very few respondents reported non-use of any contraceptive method (7 per cent) and fewer (3 per cent) were not sure if they were practicing contraception. Of those who reported some form of contraception use, 86 per cent used modern methods while 14 per cent used natural methods such as withdrawal, safe days and abstinence (Figure 38). The few who reported non-use of contraception stated it was due to an inability to conceive because of medical procedures, health complications or menopause:

> *... My wife cannot get pregnant because the womb was removed* (**R31, Male: Study 2**).

> *I have reached menopause so I cannot get pregnant* (**R1, Female: Study 2**).

Nothing because to even have the one child that we have we had to do a lot of fertility treatment (**R38, Female: Study 1**).



Data source: All three studies

Figure 38: Contraceptives used by respondents (*n*=345), Lusaka province, 2019-2020, Zambia

The personal objective regarding spacing, limiting or postponing births was an important factor considered when selecting a contraceptive method:

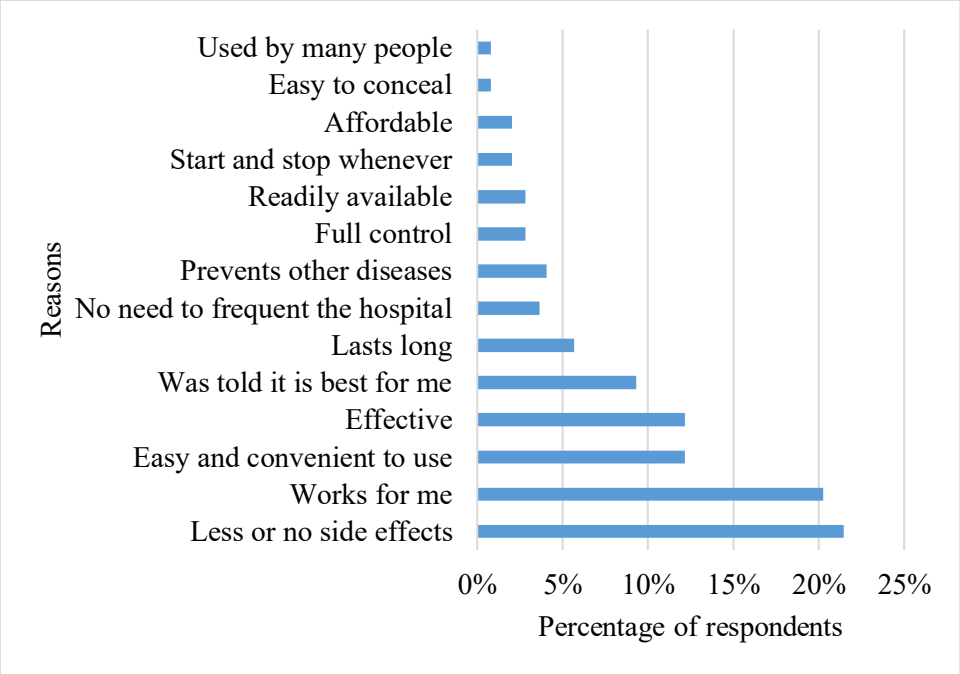
Just to keep the space in between so that they shouldn't be born too closely in months (**R13, Female: Study 2**).

I don't want to have more children at this stage because I want to go back to school (**R8, Female: Study 2**).

I felt that the children had become too many so I decided to go for family planning (**R11, Female: Study 2**).

From these verbatim examples, it is clear that contraceptives are used for different reasons and this may determine the choice of method. For example, if the objective is to limit births (i.e. stop having children upon attainment of fertility goal), permanent methods (e.g. female sterilisation) or long-acting methods (e.g. IUD) may be preferred over short-acting methods. The results suggest a higher use of short-term acting methods – injections (29 per cent), condom (23 per cent), pills (21 per cent) compared with long-term acting methods – Implant (8 per cent) and IUD (4 per cent) (Figure 38). These results are consistent with those in other countries in Sub-Saharan Africa. Tibaijuka et al. (2017) reports that in Uganda, the

desire to conceive in the near future is a key reason for using short-acting methods. The most common reasons for selecting and using a particular method were less or no side effects, "works for me", easy and convenient to use, and effectiveness (Figure 39).



Data source: Study 3

Figure 39: Reasons for using the reported FP method (more than one response was given), Lusaka province, 2019-2020, Zambia

In a mixed-methods study carried out by Tibaijuka et al. (2017), the factors that influence method selection were categorised as; method characteristics, structural factors and client characteristics. In this study, the reasons for selecting and using a contraceptive method as reported by respondents were categorized as; supply factors, health concerns and side effects, method related factors and social approval (Table 21).

Table 21: Categories of reasons for selecting a contraceptive method (more than one response possible), Lusaka province, 2019-2020, Zambia.

Category	Reason	Proportion
Supply factors	*Readily available*	3%
	Affordable	2%
	Total	**5%**
Health concerns and side effects	*Less or no side effects*	21%
	Works for me	20%
	Was told it is best for me	9%
	Total	**50%**
Method related factors	*Effective*	12%
	Prevents other diseases	4%
	No need to frequent the hospital	4%
	Full control	3%
	Start and stop whenever	2%
	Easy to conceal	1%
	Easy and convenient to use	12%
	Lasts long	6%
	Total	**44%**
Social approval	*Used by many people*	1%

Data source: Study 3

Health concerns and side effects (50 per cent) and method related factors (44 per cent) emerged as the main reasons. These reasons have been cited in other studies and are responsible for the high rate of discontinuation or switching of contraceptive method (Barden-O'Fallon, Speeizer, Calhoun, & Corroon, 2018; Belete, Zemene, Hagos, & Yekoye, 2018). For example, respondents in this study explained why they switched methods – due to frequency and experience of side effects:

> *I used the injection because it is once off. The pill I used to forget taking it* (**R5, Female: Study 2**).

> *Natural (withdrawal and safe days) methods and condoms because the others have given me complications such as headaches and blood pressure. I have used the loop (IUD) but I used to have heavy menses* (**R9, Female: Study 2**).

> *The condom brought marital conflict, the injection had terrible side effects, pill used to make me vomit so at the hospital they recommended the IUD which has no hormones* (**R66, Female: Study 1**)

Side effects and health concerns are increasingly the basis for advocating use of natural methods as an alternative or investing in a new generation of natural contraceptives using herbal plants (Bala, Arya, & Katare, 2014; Kaur, Sharma, Kumar, & Kharb, 2011; Rai & Nath, 2005). Similarly, the data on which this thesis is based suggest that some respondents use natural methods:

I use the flow application on my phone. When it shows me the danger days, to have sex we use condoms (**R15, Female, Study 2**).

I use safe days to ensure I don't get pregnant because other methods have side effects (**R43, Female: Study 2**).

… It is natural unlike these other artificial things (**R31, Male: Study 1**).

When we were dating we used to use condoms and emergency pills though she used to react badly. So we have stuck to natural methods… (**R16, Male: Study 2**).

The data also suggest that other factors may be considered when selecting contractive methods. These include sociocultural norms (e.g. religious values) and personal (e.g. age, health, marital status):

Christian values for example the loop is believed to act like an abortifacient but the Bible says go and multiply (**R5, Female: Study 2**).
… I prefer using a condom. Although in the locker rooms (men's talk) I know they laugh when I say I use a condom because it is as if one is not married but I don't see it like that. I think it's safe and healthy (**R16, Male: Study 2**).

It is evident that several factors (e.g. method-related and objective) are at play or interact with each other when evaluating and selecting a contraceptive to use (Figure 40). This is consistent with the "evaluation of alternatives" stage in the EKB Consumer decision making model. Stankevich (2017) explains that at this stage of the consumer decision-making model "attributes of the best deal" are most important. Therefore, attributes of the contraceptive method which best suits one's needs or circumstances are likely to be selected.

4.6 Possible Outcomes of Fertility Decisions

Ajzen and Klobas (2013) argue that people have control over their fertility behaviour but not over the effectiveness of the actions (e.g. having sex with a fertile partner of the opposite sex without using a contraceptive) in bringing about their desired fertility goal. Similarly, Morgan and Bachrach (2011) explain that fertility decisions unfold over the course of many years, presenting opportunities and constraints that may favour or frustrate the attainment of fertility goals. Thus, the Theory of Conjunctural Action reveals the need to design messages and services that reflect the different points in life (Morgan & Bachrach, 2011). The chance of deviating from fertility goals due to circumstances beyond control (e.g. failed marriage/partnership, nature and medical condition) was evident in Studies 2and 3:

I only wanted three but the last two ended up being twins (**R10, Male; Study 3**).

I wanted more children but I had some medical complications so I was not able to have more (**R8, Female; Study 3**).

I wanted seven children but I ended up with five because my husband left me for another lady (**R3, Female; Study 2**).

I have three boys but I would like a girl so that I can know what it feels like to have girl child (**R24, Female; Study 2**).

From the verbatim quotes it is clear that there is no guarantee of attaining fertility goals set by individuals and couples because of uncontrollable factors. Respondents were asked whether they were happy or not with the outcome of their fertility decisions (Table 22). A majority of respondents reported being happy with their family-size decision (63 per cent) and a significant proportion (83 per cent) were happy with their contraceptive decision. Nearly half (49 per cent) were happy with their birth interval/space decision.

Table 22: Descriptive statistics on possible outcomes of fertility decisions, Lusaka province, 2019-2020, Zambia.

Are you happy with the outcome of your …		**Gender**		**Total**	
		Female	Male	Count	%
Family size decision	*Yes*	66	49	115	**63%**
	No	11	8	19	10%
	Not sure	10	4	14	8%
	Not applicable	20	16	36	20%
Total		107	77	184	100%
FP method decision	*Yes*	92	61	153	**83%**
	No	6	5	11	6%
	Not sure	4	6	10	5%
	Not applicable	5	5	10	5%
Total		107	77	184	100%
Birth space decision	Yes	55	35	90	**49%**
	No	3	2	5	3%
	Not sure	0	4	4	2%
	Not applicable	49	36	85	46%
Total		107	77	184	100%

Data source: Study 3

Respondents were asked to explain why there were/ were not happy with the outcome of their fertility decisions. The thematic analysis (Table 23) shows that the outcome is subject to realities of life and that some things may be beyond one's control. Therefore, the themes that emerged from the responses on the family size decision were coded as: optimistic, uncertain, happy, not happy, content, and currently content. These themes reflect the views of people who intend to have children but currently do not have any as well as those who have – others have achieved their goals while others have not.

The themes reflect different levels of satisfaction with the outcome of the fertility decision, thereby illuminating the need for FP interventions to consider how to increase the chances of satisfactory fertility outcomes. For example, instead of leaving the fertility decision to chance, couples can be encouraged to plan their family size in advance and reinforce the role that effective contraceptives play in achieving the fertility goal.

Table 23: Thematic Analysis on possible outcome of the Family Size Decision, Lusaka province, 2019-2020.

Theme	Verbatim examples
Optimistic**:** *refers to respondents who are not married, have no children but plan to have children and are confident that they will be happy with the outcome or realities of their decisions.*	Looking at my family we are a lot so I feel four children will give me enough grandchildren (**R77, Male**). I know out of five children, two or three will be able to take care of me in future (**R124, Male**). Looking at the economy three is a manageable number (**R36, Male**).
Uncertain: *refers to respondents who are not married, have no children but plan to have children and are not sure of the outcome or realities of their decisions*	I am not married and don't really know if I will have the planned number I want (**R62, Female**). I can't say much because I do not have children and I am not yet married (**R118, Female**).
Happy: *refers to respondents who have achieved their desired fertility, are able to care and provide for the children or children are grown up and currently care for them now*	They do not give me problems and I have managed to care for them (**R6, Female**). This is what we wanted and agreed with my spouse (**R32, Female**).
Not Happy: *refers to respondents who have not attained their fertility goals or are not happy with the realities of having children (they are disappointed with the outcome)*	I want to have one more to add to the four boys. I really want a girl (**R34, Male**). It has been difficult for me to sponsor all my children especially that they are from different women (**R68, Male**).
Content: *refers to respondents who have/not attained their fertility goals but are happy with the status quo because of the realities of life e.g. medical complications, cost of leaving, acceptance of nature's dictates.*	I wanted more children but I had some medical complications so I was not able to have more (**R9, Male**). It is the will of God. I wanted five but I have seven we have extra two (**R83, Female**). I have no choice they are here and I love them (**R84, Male).**
Currently Content: *refers to respondents who are mainly single, have a child but have not attained their fertility goal due to current marital and financial status – if this changes, they may have more children*	For now, I am happy. But after some time, I might need three more (**R100, Male**). I am separated so one for now is enough (**R10, Male**). I am just starting my family so one is manageable for now (**R87, Female**).

Data source: Study 3

For individuals or couples who are yet to have children, they are either optimistic or uncertain about the outcome of their fertility plans. When people attain their fertility goals as planned, they are happy (high levels of satisfaction). In the event that they do not, the

majority accept the reality that they have no control over it and they become content (satisfied) while others are disappointed with the realities of having children as a result they are not happy (low levels of satisfaction). As noted by Morgan and Bachrach (2011) that fertility decisions are not static and may be made and remade in response to life's opportunities and constraints, it was evident that some respondents reported being temporarily content with the outcome of their family-size decision but desire more children. This presents a marketing opportunity for reversible contraceptives that are better suited for this segment of users than permanent methods which are more suitable for those who have attained their fertility goal.

Similarly, the reasons given by respondents for why they were/ were not happy with the birth intervals can be summarised into five themes: ability to provide, care and nurture the child, health benefits, opportunity cost and personal preferences (Table 24). Equally, uncontrollable factors such as failed marriage/partnership, contraceptive failure – which can be a result of the method or the user – incorrect use, and challenges in conceiving were reported as the reasons for being dissatisfied with the birth intervals.

Table 24: Thematic Analysis on possible outcomes of the Birth-Space Decision, Lusaka province, 2019-2020

Theme	Verbatim examples
Ability to provide, care and nurture: e.g. *upkeep costs, childcare and babysitting*	With the spacing we have managed to take them to school (**R79, Female**). The older ones are more independent hence less stress (**R20, Female**). The space is enough such that the older one takes care of the younger one (**R147, Female**).
Health benefits: e.g. *growth of the child and time for mother to recover*	Given each child time to grow and enjoy my attention (**R146, Female**). The three years spacing has helped and given enough time for my wife to heal (**R104, Male**).
Uncontrollable factors *e.g. contraceptive failure, birth Type – C section, challenges in conceiving and relationship status*	The doctors were very particular on this because of the C-sections on the first two births (**R29, Female**). The first and second was happy, this third one I was not because the injection failed me (**R21, Female**).
Opportunity cost e.g. *self-care and employment*	Gives me time so I can work (**R120, Female**). So I can have time for myself (**R162, Female**).
Personal preference, *either short or long birth intervals*	I had them rapidly and now I am done and free (**R91, Female**) I had them quickly now am free from having babies (**R73, Female**).

Data source: Study 3

4.7 Chapter Summary

Extant studies identify the different factors that influence fertility decisions (Blackstone et al., 2017; Haider & Sharma, 2013; Weston et al., 2004). However, few studies establish the specific factors that influence the respective fertility decisions. Therefore, this chapter establishes the key factors at play when making the respective fertility decisions (Figure 40).

The decision to have a child or not (i.e. desire for children) is influenced by sociocultural norms (e.g. religious beliefs), the need for continuity of humankind and old-age social security – to be provided and cared for in old age. As a result, nearly everyone by default, elects to have a child or children. Factors that influence the family-size decision are the ability to provide, care and nurture the child (or children) and risk of child mortality. These factors reflect a modernising society in which cost of living is an important decision factor. Furthermore, these factors provide a rationale for the ideal fertility rate of four births per woman which in the society's view strikes a balance between having too few and too many children.

Unlike the family-size decision, the birth-space decision in many cases is not pre-planned. The main factors taken into consideration when making this decision are ability to provide, care and nurture the child (or children) and personal preferences. The main drivers of birth spacing are the health benefits for the child and the mother, costs associated with having a child and opportunity costs. The contraceptive decision is influenced by potential side effects, method-related factors, personal/couple fertility objective (i.e. space, postpone or limit births), personal factors (e.g. health, age, marital status), supply factors (e.g. cost, availability) and sociocultural factors (e.g. religious values and social approval).

Thus, the framework (Figure 40) provides a structured way of identifying and categorising the factors that influence the respective fertility decisions. The framework can be adapted to reflect the context-specific factors which provide the insights required to develop and design FP interventions that are driven by a SM approach. This framework makes both a theoretical and practical contribution and these are discussed in Chapter 8.

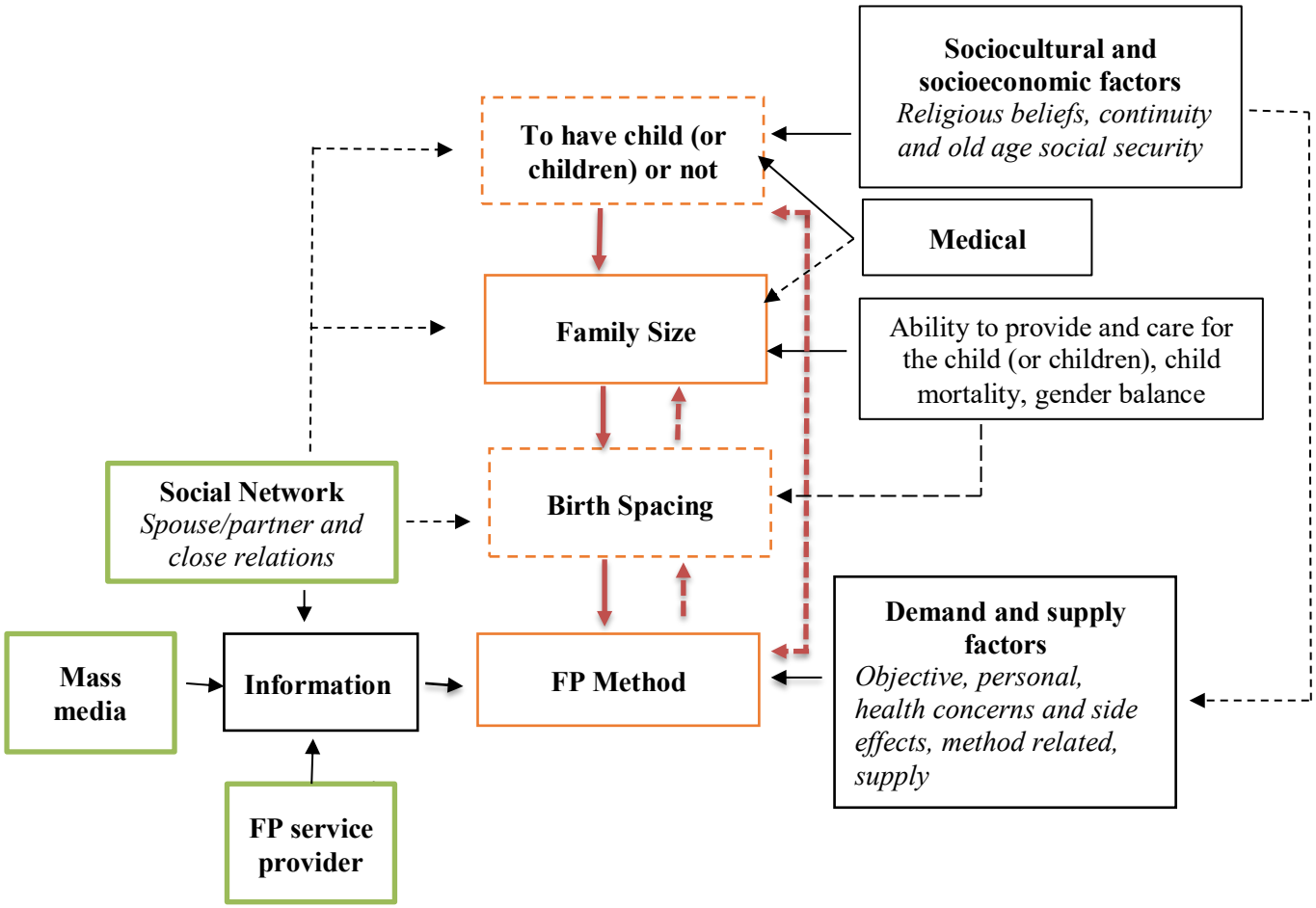
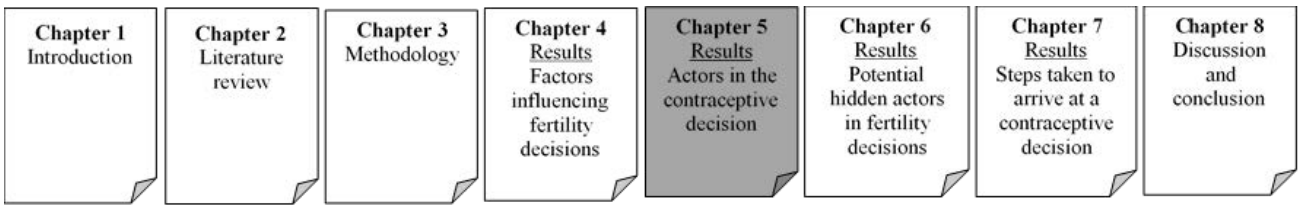


Figure 40: Framework of factors that influence respective fertility decisions

The broken orange boxes indicate that the fertility decision is in most instances made unconsciously/default/occurs without the key actors being actively involved. While the solid orange boxed shows conscious and active involvement of the key actors in the decision. The black boxes indicate the factors that affect the different fertility decisions. The black solid lines indicate key factors at play in the respective fertility decision. The black dotted line show weaker factors, which may influence the respective decisions. The green boxes show the different sources of FP information. In addition, the solid red lines show the 'ideal' sequence of making fertility decisions while the bokken red arrows show alternative sequence.

Chapter 5: Results Regarding Actors in the Contraceptive Decision



5.1 Introduction

This chapter addresses the second research question: What is the role of the respective actors in the contraceptive decision? Though fertility decisions are private and personal, different persons are engaged in or consulted during the decision-making process. Extant studies (Ashraf et al., 2014; OlaOlorun & Hindin, 2014; O*laOlorun, Seme, Otupiri, Ogunjuyibe, & Tsui, 2016; Stein et al., 2014; Thua Ha et al., 2003) show that in African and Asian societies, fertility decisions are joint decisions (i.e. between spouses/partners) and subject to social network influence (in-laws, parents, friends, community leaders). Thus, these decisions are interactive and interdependent.

These actors in fertility decisions can be categorised as spouse/partner or the couple, FP service providers and close relations. They are all important and play different roles in the respective fertility decisions i.e. to have a child (or children) or not, family size, birth intervals and contraceptive method. Among these fertility decisions, the most complex decision is selecting a suitable contraceptive method to adopt and use because of the various factors and actors at play.

5.2 Decision Type and Decision Maker

Unlike the decision to have a child (or children) or not – which is passive or by default, other fertility decisions require active or conscious decision-making. Qualitative data from Study 2 was used to establish the approach taken by individuals or couples to make the family size and birth interval decision (Tables 25 and 26). The themes that emerged were joint, autonomous, influenced and laissez-faire approach. For both decisions (family size and birth interval) the dominant approach was joint decision-making.

However, the descriptive statistics from Study 3 (Table 27) show that the family size decision is mainly individual (47 per cent). This challenges findings from other studies and DHS reports (Bankole & Singh, 1998; Doepke & Kindermann, 2014; Eshete & Adissu, 2017; Stein et al., 2014). Nevertheless, this can be explained by the significant proportion of single respondents (41 per cent) in the sample for Study 3. In many studies including the DHS,

respondents who are not married are excluded from participating in the study. Furthermore, other studies report that even though fertility decisions are joint, the ultimate decision is often made by the spouse/partner who exercises more influence or bargaining power (Fan & Maitra, 2013; Hollerbach, 1980; OlaOlorun & Hindin, 2014).

With regards to the birth interval decision, results from Studies 2 and 3 show that the majority of the respondents indicated a joint decision. However, a high rate of laissez-faire approach was recorded for the birth interval (29 per cent) compared with the family-size decision (12 per cent). The laissez-faire approach is interpreted as an approach where couples do not consciously make the decision – they leave the decision to chance or nature.

Table 25: Thematic Analysis on respondents' approach to the Family Size Decision, Lusaka district, 2019.

Approach	Count	%	Verbatim examples
Joint	34	69%	My husband and I agreed because we had to look at our ability to provide and educate them (**R1, Female**).
Autonomous	7	14%	I did because I feel I can manage to provide for the family, I am the one who provides (**R29, Male**).
Influenced	2	4%	My mother-in-law because she wanted me to have enough children for my husband and his brother who has no children (**R24, Female**).
Laissez Faire	6	12%	In the olden days we just used to have children (**R12, Female**). It is God who decided to give children, you have as he dictates (**R32, Male**).
Total	49	100%	

Data source: Study 2

Table 26: Thematic Analysis on respondents' approach to Birth Interval Decision, Lusaka district, 2019.

Theme-Decision type	Frequency	%	Sample verbatim
Joint	26	53%	When we see that the child has grown, then we start trying for the next child (**R36, Female**). My wife and I decided especially for the second child. The first one we let it to nature (**R46, Male**).
Autonomous	9	18%	My husband because he is the provider of the family so he decided since he felt he was able to provide (**R1, Female**). As a man I decided because I was financially stable and I just have to have kids I can afford to take care of (**R14, Male**).
Laissez Faire	14	29%	In most cases it just happened. I would not even know that I was pregnant (**R35, Female**). It just happened because I was not on family planning (**R45, Female**).
Total	49	100%	

Data source: Study 2

Furthermore, the descriptive statistics (Table 27) show that the contraceptive decision is mainly individualist (51 per cent). This also challenges the Zambia 2018 DHS report, which established that the contraceptive decision was mainly a joint decision. Nonetheless, this contrast can be explained by the understanding that the contraceptive decision is comprised of two parts: whether to adopt and use modern contraceptive; and which specific contraceptive to use.

Table 27: Descriptive statistics on type of decision and decision maker, Lusaka province, 2019-2020, Zambia.

Decision Type		**Gender**		**Total**	
		Female	Male	Count	%
Family Size	**Me**	**43**	**43**	**86**	**47%**
	Spouse/Partner and Me	40	23	63	34%
	Spouse/Partner	12	1	13	7%
	God/Nature	7	6	13	7%
	Not Sure	5	4	9	5%
Total		107	77	184	100%
Birth Space	**Spouse/Partner and Me**	**65**	**50**	**115**	**63%**
	Female spouse/partner	33	7	40	22%
	Male spouse/partner	7	18	25	14%
	Not Sure	2	1	3	2%
	Nature/God	0	1	1	1%
Total		107	77	184	100%
FP Method	**Me**	**66**	**28**	**94**	**51%**
	Spouse/Partner and Me	31	33	64	35%
	Spouse/Partner	4	12	16	9%
	Doctor/Nurse	6	1	7	4%
	Not sure	0	3	3	2%
Total		107	77	184	100%

Data source: Study 3

Unlike other studies and the DHS, this thesis addresses both parts of the contraceptive decision. Respondents were specifically asked whether they would consult or engage their spouse, service providers and close relations in the contraceptive decision (Table 28).

Table 28: Persons engaged in the contraceptive decision, Lusaka province, 2019-2020.

Actor		**Count**	**%**
Spouse/Partner	**Yes**	**155**	**84%**
	No	21	11%
	Not Sure	6	3%
	Not Necessary	2	1%
Health Personnel	**Yes**	**163**	**89%**
	No	19	10%
	Not sure	1	1%
	Not Necessary	1	1%
Close Relations	**Yes**	**126**	**68%**
	No	49	27%
	Not Sure	8	4%
	Not Necessary	1	1%

Data source: Study 3

A significant proportion of respondents indicated that they would engage all three persons: spouse/partner (84 per cent), FP service providers (89 per cent) and close relations (68 per cent). This is in contrast with the family size decision which is made entirely by the couple because of the financial implications as explained by respondents:

> *Only my husband because he is the one that sponsors them to school and he provides for them* (**R7, Female: Study 2**).

> *No one because it is between me and my spouse. We will be the ones to take care of the family not others* (**R17, Female: Study 2**).

> *I would not ask third parties because they are not the ones that will be providing and caring for the kids. But reality is that people sort of also give unsolicited opinions or input about the number of children. My mother-in-law sort of wanted to influence us* (**R45, Female: Study 2**).

By splitting the contraceptive decision into two parts it can be assumed that the ultimate decision maker is the female spouse/partner. Furthermore, it is assumed that in most instances the first person to be consulted is the male spouse/partner. However, this is not always the case. At times, third parties may be consulted before the male spouse/partner, as explained by one of the male respondents:

> *She brought the topic up after she had consulted some people* (**R20, Study 1**).
> *I don't see any need to discuss contraceptives with anyone but I know my wife does discuss this with her friends and relatives. I think this is a woman's issue. I even once heard her ask her friend what her experience was with one of the contraceptives…* (**R48, Study 2**).

There was no rigid or established sequence in which these actors were engaged or consulted. However, because of the reported need for a couple to agree on whether to adopt and use modern contraceptive, it is assumed that the male spouse/partner is the first to be consulted or engaged. The qualitative data from Study 2 suggests that the common persons engaged or consulted in the contraceptive decision-making process are: doctors, nurses, husband, mothers, aunties, sisters and friends;

> *Friends, sister and hospital because they had more knowledge and experience* (**R3, Female: Study 2**).

> *Just close friends if not then the doctor because they are trained in the field* (**R31, Female: Study 2**).

> *I asked my mum as well as my mother-in-law and they told me the right time to start and when to stop using the contraceptives* (**R7, Female, Study 2**).

Respondents were asked to explain why each of these categories of actors was engaged or consulted. For example, one respondent explained that: "the elderly people because they have more experience. The nurses because they know more about the methods and the marriage counsellors because they are our marriage guardians" (R39, Female, Study 1). It was clear that the reasons for engaging or consulting these respective persons are different. This shows the distinct but interlinked roles of the different actors in the contraceptive decision. These are presented in the subsequent sections of the chapter.

5.3 Male Spouse or Partner

Studies on fertility decisions (Adelekan et al., 2014; Balogun et al., 2016; Bankole & Singh, 1998) have established the involvement of the male spouse/partner in decision-making, hence, the use of the term "joint decision-making". However, there is a lack of clarity on how and why they get involved in the respective fertility decisions. As discussed in Chapter 4, the spouse or partner becomes involved in the fertility and birth interval decision because of the importance of the ability to provide for the child (or children), which is mainly a responsibility for the male spouse or partner. However, the reasons for their involvement in the contraceptive decision are different and may be limited when the couple opts to use modern contraceptives because the ultimate decision in this case, is often left to the female spouse or partner:

> *My wife because it is her body so I told her to pick what would work for her* (**R26, Study 2).**

For the implant, I decided alone because my husband by then was of the view that it's my decision and thought it was entirely up to me. With the condom, we had to agree because he is the one who has to put it on and it was because we agreed that we try one without hormones because the implant had a sort of unusual effect on me (**R45, Study 2).**

We discussed with my husband but it was mainly me who decided because it is my body (**R7, Study 2**).

I advised her to start family planning because I did not want her to get pregnant again (**R28, Study 2**).

The combined data from Studies 1 and 3 (qualitative and descriptive statistics, Tables 29 and 30) explain why the male spouse/partner is engaged in the contraceptive decision. The male spouse or partner is engaged or consulted in the decision-making process because of the need to discuss, get consent or approval and agree on which category of contraceptive method to adopt and use – traditional, natural or modern methods.

This step helps to reduce the risk of conflict and is a sign of transparency or respect for the partnership. However, this step is shaped by the dynamics (e.g. communication and dominance) of the husband-wife relationship, which may differ from one couple to another. For example, Ashraf et al. (2014) reports that in Zambia, differences in fertility preferences between husband and wife is a source of disagreement. In instances where this is not resolved, women prefer concealable contraceptives such as implants and injectables but this tends to result in psychosocial costs (i.e. tension in marriage and stress). Similarly, in Study 2, the risk of male disapproval was reported by some respondents:

My husband refused to use anything as a result I just divorced him (**R4, Study 2**).

… In my case my husband was against. But I think a man should be supportive and even remind the wife when she is due (**R15, Study 2**).

Table 29: Thematic analysis on the reasons for engaging the male spouse/partner, Lusaka province, 2019-2020, Zambia

Theme	Verbatim samples
Partnership obligations e.g. *respect and transparency*	It is a partnership and I would not like him to be surprised (**R48**). He must be aware of what is happening in my life (**R86**). We are one … he needs to know what is going on (**R122**).
Discuss e.g. *hear views/opinions, agreement or advise each other*	We had to agree because it affects both of us (**R15**). I wanted to hear his response and views (**R63**). He needed to understand why we would have to use condoms even when we are married (**R91**).
Avoid conflict e.g. seek clarifications, get consent/approval, respect leadership and authority	He is the head of the house, I had to ask him first (**R16**). Because some men refuse so I needed approval from him (**R37**). To avoid arguments and maintain peace it's best to consult my partner (**R55**).
Get commitment and support e.g. *assist in managing possible side effects and remind female spouse/partner*	He is my partner and reminds me when my time is due for removing the injection… He helps out around the house with house chores when I feel sick because of the injection (**R1**). If anything goes wrong like I delay to become pregnant, he needs to know it's because of the contraceptive (**R40**).

Data source: Study 1

Thus, the choice of which category of contraceptive method to adopt and use is a joint decision but the choice of the specific contraceptive to use, in the case of modern contraceptives, is individual. The female spouse/partner makes the ultimate decision but, in the process, engages other third parties:

> *After the struggles I had with the pill (forgetting to take them) I asked my sister who told me that the injection was good and so I went for it* (**R3, Study 2**).

> *My marriage counsellors, because I felt they would know since they were teaching me on how to live with my husband* (**R39, Study 2**).

In the event that a couple agrees to adopt and use natural methods (e.g. safe days, withdrawal), which require commitment by both parties, then the ultimate decision on which specific method to use is also made jointly. If they settle for fertility awareness methods (FAM), it is likely that the female spouse/partner will be the one to select the method to use because FAMs are dependent on active involvement by the woman (e.g. checking the calendar, assessing temperature and cervical discharge texture).

Table 30: Descriptive statistics on reasons for consulting spouse/partner (more than one response possible)

Why consult spouse/partner about contraceptive choice?	**Count**	**%**
Agree*	*91*	*38%*
Avoid conflict	32	14%
Hear their view	26	11%
Get approval	20	8%
Obtain consent	20	8%
Inform	22	9%
Get their support	19	8%
Seek advice*	7	3%
	237	100%

Data source: Study 3

The main reason for engaging the spouse/partner in the contraceptive decision is to agree as a couple, on the assumption there is agreement on the adoption and use of modern contraceptives. This is because male spouse/partner disapproval continues to be reported as one of the barriers to the uptake of modern contraceptives (Kaniki, 2019; Vouking et al., 2014). Thobani et al. (2019) reports that husband support helps to reduce discontinuation of use of modern contraceptives. Thus, it is not surprising that the results of this study show that the other two main reasons the spouse/partner is consulted is to avoid conflict and hear their views (Table 30). Noticeably, the male spouse or partner are not engaged to seek advice because they are perceived not to have knowledge or information about family planning as the following statement typifies:

> *I never even asked my husband because he has no knowledge about family planning but I did ask some friends and the people at the hospital* (**R17, Study 2**).

5.4 FP Service Providers

Extant studies (Dehlendorf, Levy, Kelly, Grumnach, & Steainer, 2013; Donelly, Foster, & Thompson, 2014; French, Cowman, Wellings, & Dowie, 2014; French, Wellings, & Cowman, 2009; Mi Kim, Kols, & Mucheke, 1998) recognise FP service providers as actors in the decision-making process. However, in most programs that are non-coercive, they do not actively engage in the contraceptive decision-making process (French, 2009; Mi Kim et al., 1998).

Hence, there is a need to ensure that FP service providers deliver personalised contraceptive counselling and shared decision-making by providing information about the

contraceptives and help clients to identify the method that fits their needs, values and preferences (Dehlendorf et al., 2013). FP service providers can become more actively engaged in the contraceptive decision-making process by using contraceptive decision aids. Contraceptive decision aids are tools that are developed to enhance the effectiveness of counselling by FP service providers and provide guidance on how clients can be supported in their method-selection process (Dehlendorf et al., 2013; French, 2009).

Establishing the reasons why health personnel are consulted is crucial. The results of Study 3 suggest that FP service providers are consulted, mainly for their expert knowledge (40 per cent) which they attain through their academic and professional training: it is their job (Figure 41). FP service providers are perceived to be experts because they have technical knowledge about the contraceptives: correct use of the methods, scientific information about the potential side effects, and how adverse side effects can be managed. However, it is important to note that very few (5 per cent) respondents were motivated to engage FP service providers to help them deal with their fears of side effects (Figure 41), which partly reveals the nature of the provider-client interaction or contraceptive counselling sessions.

Data source: Study 3

Figure 41: Reasons for consulting FP service providers (more than one response possible), Lusaka province, 2019-2020, Zambia

In a study conducted in Kenya by Mi Kim et al. (1998) it was established that the provider-client interactions where not tailored to the client's needs but were only information dissemination sessions. Similarly, Wyatt et al. (2014) suggest that the current contraceptive

decision-making aids reveal a mismatch between what the clients want in a session and what is offered by their FP service provider. Thus, it is reasonable to conclude based on this study that the client-provider interaction in Lusaka province appears to be more information dissemination oriented rather than contraceptive counselling.

Therefore, the recommendations by Dehlendorf et al. (2013) to involve end users in the development of contraceptive decision aids to enhance contraceptive counselling are also applicable to Zambia because respondents expressed the desire for their FP service provider to guide them in selecting the method that suits them:

> *People should go to the hospital and get checked, not just buy contraceptives over the counter in order to avoid some of the side effects* (**R54, Female: Study 1**).

> *It is important for health practitioners to teach people about family plaining and the available options before they give them anything* (**R86, Female: Study 1**).

> *It is important for people to consult health-care providers about contraceptives and use what works for you* (**R65, Female: Study 1**).

5.5 Close Relations

Apart from engaging the male spouse/partner and the FP service provider, women often engage other people in their contraceptive decision-making process. The third parties who are consulted are those with whom they have a close, trusted and/or friendly relationship, for example mother, sister, aunty and friend. The main reason for doing so is their need to learn from other people's lived experiences because of the fear of side effects and health concerns: "it's ok to ask around just to hear other people's experiences" (R8, Study Two). While this is important, there is a risk of getting confused or misled:

> *Because I do not just trust our society, some things don't make sense to me and I don't want to discuss bedroom issues with third parties* (**R16, Male: Study 2**).

Similarly, Yee and Simon (2010) suggest that though social networks are a key source of information about FP, they are also the main channel for spreading myths, misconceptions and vicarious experiences about contraceptives. Therefore, people are selective on whom to consult as a mechanism of reducing the risk of being misled or misinformed. Trust and closeness are important factors in selecting who to consult. This can be inferred from some of the responses:

> *My sisters and cousins because they can give me the best advice as we share a lot of things together* (**R1, Study 2**).

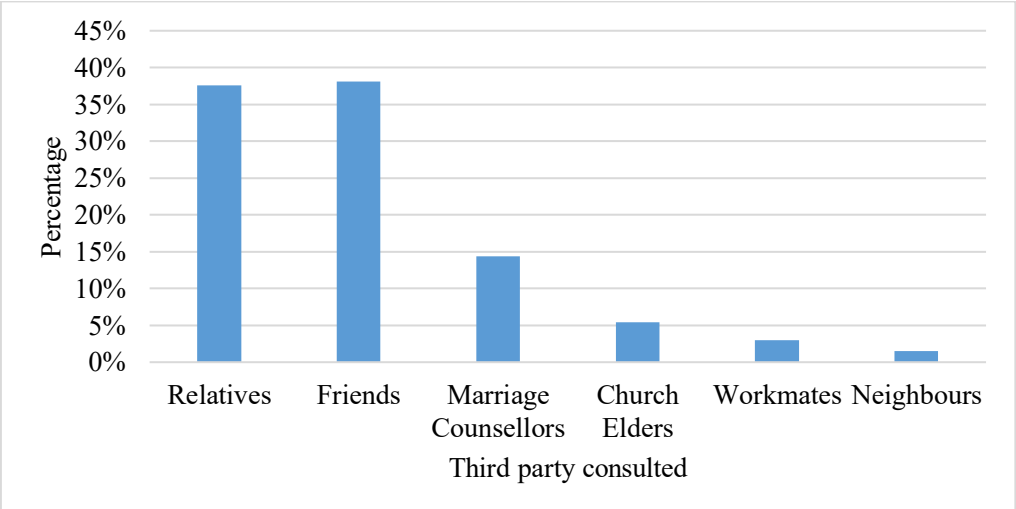
> *Only my mum and aunties because they are the only ones that I can trust and they care and protect me a lot* (**R7, Study 2**).

Yes, I only ask elders because of their experience and I believe and trust them (**R20, Study 2**).

Noticeably, the descriptive data (Figure 42) confirm the results of the thematic analysis. Most respondents indicated that they would consult their friends (37 per cent), relatives (36 per cent) and marriage counsellors (14 per cent) about contraceptives. These third parties are engaged for purposes of learning from their lived experiences of using contraceptives (Table 31).

The underlying factors used in selecting which third party to consult are trust and having a close relationship. For example, Dehlenderf et al. (2013) note that clients express desire for a client-provider interaction that is intimate or reflects a friend-like relationship.

Like other actors discussed in the preceding sections, close relations are consulted for different reasons. However, the main reasons they are engaged (Table 34 and already explained in the opening of this section) are to learn from their personal experiences of using contraceptives. This thesis also identifies rarely reported actors in fertility decisions: marriage counsellors. Marriage counsellors can be classified as "close relations" or family friends in Zambian society because of the role they play in coaching new couples shortly before and during marriage. They are trusted and the relationship they have with the couple is a respectful, close and friendly one.



Data source: Study 3

Figure 42: Third parties consulted in the contraceptive decision-making process (more than once answer was possible), Lusaka province, 2019-2020, Zambia.

Table 31: Reasons for consulting close relations, Lusaka province, 2019-2020, Zambia.

Reason		Gender		Total	
		Female	Male	Count	%
Get more information	Yes	38	22	60	33%
	No	69	55	124	78%
Hear their personal experience	Yes	62	30	92	**50%**
	No	45	47	92	**50%**
Hear their views	Yes	22	9	31	17%
	No	85	68	153	83%
Reduce my fears	Yes	9	2	11	6%
	No	98	75	173	94%
Not sure*	No	107	77	184	100%

Data source: Study 3

Marriage counsellors are important in Zambian society because they play an important role in mentoring couples about key marital issues including fertility. They are part of the social network web. The next chapter provides the results and findings about their important role in shaping the normative environment in which fertility decisions occur in Zambia.

5.6 Chapter Summary

The contraceptive decision is the most complex of the four fertility decisions because of the different actors at play. As opposed to focusing on male spouse/partner disapproval (Ackerson & Zielinski, 2017; Blackstone et al., 2017) and negative social network influences (Colleran & Mace, 2015; Yee & Simon, 2010), this chapter presents the results on the distinct roles of the different actors (spouse/partner, FP service providers and close relations) in the contraceptive decision. Thus, this chapter answers the research question: what is the role of the respective actors in the contraceptive decision? For purposes of clarity, the contraceptive decision is divided into two distinct but important decisions: which category of contraceptive (traditional, natural or modern) to adopt and use; what specific contraceptive method to use?

The male spouse/partner is often the first to be engaged or consulted because of the need to jointly decide on that part of the contraceptive decision. Engaging the male spouses or partners to discuss or obtain consent, permission or commitment helps to reduce the risk of conflict. The outcome of this part of the decision determines whether the male spouse/partner will be engaged in the later part of the decision.

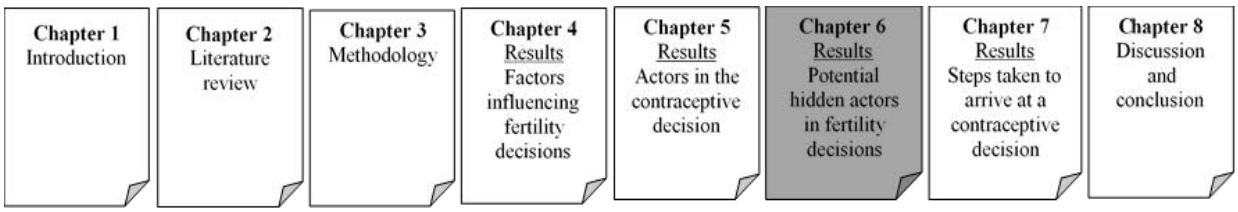
The reasons for engaging the male spouse in the former part of the decision resonate with the widely reported risk of male disproval of use of modern contraceptives. For couples

who adopt and use modern contraceptives or fertility awareness, the ultimate decision is made by the female spouse/partner because most of these methods are used by females and there are very few male methods to choose from. Those who adopt and use natural methods also jointly select the natural method because these methods require the commitment and discipline of both parties.

FP service providers (doctors and nurses) are often the second to be engaged or consulted because of the need for technical or expert advice on modern contraceptives. Their role is to guide the decision-making process of selecting a suitable method. However, because of health concerns and potential side effects, women tend to engage other close relations (e.g. best friend, aunty, sister, cousin, mother, marriage counsellors) to learn from them about their personal lived experiences of modern contraceptives. They tend to triangulate information from the FP service providers and close relations (i.e. social network). When the information from the two sources is consistent, it makes it easy to make a decision. The challenge is when there is a sharp contrast between the two sources and this results in a dilemma.

This thesis does not explore the outcomes of information triangulation but presents evidence on the importance of the different interpersonal sources of information in the contraceptive decision-making process. Women tend to rely more on interpersonal sources and take other sources such as broadcast, print and internet as additional sources of information (Colleran & Mace, 2015; Yee & Simon, 2010). Therefore, FP programs should optimise the key interpersonal sources of information about contraceptives in a given population or society.

Chapter 6: Results on Hidden Actors in Fertility Decisions



6.1 Introduction

One of the research gaps identified by this thesis is the possibility of "hidden actors" in the social network web. Therefore, this chapter presents results on specific potentially hidden actors-marriage counsellors (MCs), within Zambian society, by answering the research question: How does pre-MC influence fertility decisions and behaviour?

Extant studies on fertility are categorical on the influence of social network in fertility decisions (Lowe & Moore, 2014). Some studies such as that of Colleran and Mace (2015) differentiate the levels (immediate and community) of social network influence while others (Lois & Becker, 2014; Yee & Simon, 2010) identify who constitutes the social network (e.g. mother, friends, siblings, aunty etc.) and the structure of interactions among those within the social network (Bernardi & Klarner, 2014; Kohler et al., 2001; Madhavan, Adams, & Simon, 2003).

Yee and Simon (2010) recommend identification of the key persons within a client's social network during contraceptive counselling. Conversely, there is hardly any discourse on the possibility of "hidden" actors within the social network web. Study 1 explored the potential influence of hidden actors in a specific context: Zambia. However, marriage counselling is neither new nor unique to Zambia or developing countries (Cobbinah & Osei-Tutu, 2019; Sodi, Esere, Gichinga, & Hove, 2010). It is also prevalent in developed countries such as the United States and Australia (Bagarozzi & Rauen, 1981; Schofield, Mumford, Jurkovic, Jurkovic, & Bickerdike, 2012).

6.2 Prevalence of pre-MC in Zambian Society

In Zambian society, pre-marriage counselling (pre-MC) is a socially mandatory undertaking for persons who want to get married through a socially acceptable and culturally correct marriage procedure. Chiboola and Munsaka (2016) explain that there are different types of traditional counselling in Zambian society. Traditional counselling is rooted in traditional systems of knowledge and sociocultural values and aims to help people to deal

with different challenges in life such as loss of a loved one. The most common type is pre- and post-marital counselling (Chiboola & Munsaka, 2016). Nomanje and Mandyata (2017) note that traditional marriage counselling provides valuable information and knowledge about marriage.

There are two types of pre-MC in Zambian society: traditional and religious. However, one of the respondents reported having undergone "professional marriage counselling" offered by a private firm in Lusaka. Data from Study 1 show that nearly all respondents (94 per cent) had undergone some form of pre-MC. A few respondents (6 per cent) did not undergo any form of pre-MC because of different reasons such as going against social standards (e.g. getting pregnant before marriage, cohabiting) or not having the resources/close relatives to organise the pre-MC:

> *...my parents chased me to go to the person who got me pregnant and they refused to look for someone to teach me* (**R20, Female: Study 1**).
>
> *...we just met at the bar and we started living together* (**R46, Male: Study 1**).
>
> *I did not have people to organise someone to teach me because my parents are dead and my grandmother, the one who raised me, is also dead* (**R25, Female: Study 1**).

Among respondents who underwent any form of pre-MC, 52 per cent reported having undertaken traditional pre-MC, 7 per cent undertook the religious type and 40 per cent had both religious and traditional (Table 32). One respondent reported a peculiar type of marriage counselling: commercial. Although undergoing pre-MC is socially mandatory and is expected of every couple that wants to wed in a culturally right procedure, "… my close relatives and parents all wanted me to go through it" (R38, Study 1), pre-MC is beneficial or useful for a couple:

> *... Because it is good in the sense that it empowers you to handle problems in marriage as they occur* (**R5, Study 1**).
>
> *Even though I regret getting married, I do not regret undergoing marriage counselling because it helped me to grow and become mature* (**R19, Study 1**).
>
> *What I was taught is what I am experiencing in my marriage* (**R14, Study 1**).

Thus, irrespective of the type of marriage (i.e. civil, customary or religious) couples undertake pre-MC. The average duration is one to three months, with each session lasting between one and two hours. Several topics are covered during pre-MC and are discussed in the later sections of this chapter.

Table 32: Descriptive statistics on pre-MC in Lusaka province, Zambia, 2019-2020.

Factor	Response	Count	%
Type of marriage/relationship status	*Civil Marriage*	15	10%
	Customary Marriage	75	50%
	Divorced	8	5%
	Engaged	11	7%
	Prefer not to say	1	1%
	Religious Marriage	23	15%
	Widowed	16	11%
	Total	149	100%
Underwent Marriage Counselling	*Yes*	140	94%
	No	9	6%
	Total	149	100%
Type of pre-MC undertaken	*Traditional*	73	49%
	Both	56	38%
	Religious	10	7%
	Other	1	1%
	None	9	6%
	Total	149	100%
Duration of pre-MC	*1 to 3 Months*	74	53%
	4 to 6 Months	8	6%
	Less 1 Month	46	33%
	Not sure	7	5%
	Up to Marriage Counsellor(s)	5	4%
	Total	140	100%
Duration of sessions	*1 to 2 hrs*	92	66%
	3 to 4 hrs	25	18%
	5 hrs	3	2%
	Not sure	5	4%
	Varies	15	11%
	Total	140	100%
Cost of pre-MC	*≥ K 300*	6	4%
	K301 to K500	4	3%
	K501 +	27	19%
	Not sure	63	45%
	Other	40	29%
	Total	140	100%
Regret undertaking pre-MC	*Yes*	5	4%
	No	132	94%
	Not Sure	3	2%
	Total	140	100%
Regret not undertaking pre-MC	*Yes*	7	78%
	No	1	11%
	Not sure	1	11%
	Total	9	100%
Recommend pre-MC*	*Yes*	*139*	*99%*
	Not sure	1	1%
	Total	140	100%
Recommend type of pre-MC	*Religious*	22	16%
	Traditional	14	10%
	Both	99	71%
	Not Sure	5	4%

	Total	140	100%
Continued Relations with pre-MC Counsellors	*Yes*	121	86%
	No	15	11%
	Not Necessary	2	1%
	Not sure	2	1%
	Total	140	100%
Consult pre-MC counsellors about FP	*Yes*	74	50%
	No	57	38%
	Not sure	18	12%
	Total	149	100%

Data source: Study 1

The personal benefit is evident. Nearly all respondents (99 per cent) who had undergone any form of pre-MC indicated that they would recommend it to others. More than half (71 per cent) of the respondents recommended both types of pre-MC because:

> *Traditional is practical like how to cook what your spouse likes and how to take care of children while the religious one teaches spiritual things like how to pray* (**R125, Female: Study 1).**

> *Traditional values are good and at the same time we are Christians so the principles of the Bible must also be appreciated* (**R12, Female: Study 1**).

This may explain why the majority of respondents (94per cent) who underwent any form of pre-MC do not regret having participated. The few (4 per cent) who regretted doing so gave reasons such as bias of the traditional teachings, mismatch with modern ways of life, and the emerging practice of openly sharing the teachings on social platforms as explained by one respondent:

> *Marriage is difficult to handle in our generation so I feel it did not help me much and the problem is that it is now public knowledge because they are now sharing on WhatsApp and Facebook* (**R130, Female: Study 1).**

Mwitwa (2016) reported the tendency of traditional marriage counsellors to commercialise their services, which is against Zambian moral standards. This is because passing on of indigenous knowledge from one generation to another on how to attain a successful marriage is considered to be an honour i.e. preserving cultural values and norms about marriage (Chiboola & Munsaka, 2016; Mapala, 2004). The proliferation of traditional marriage counsellors on social media has unsettled key stakeholders including the government. This prompted the Zambian government, through the Ministry of National Guidance and Religious Affairs, to ban such practices explaining that:

> *…the trend was immoral and should never be entertained because pre- and post-marital counselling is a preserve of married people or those intending to wed … Genuine traditional counsellors don't display their teachings in public because they understand that it is culturally wrong to do so… such people do not understand the confidentially and privacy requirements of their job (Mwebantu, 2019).*

Seven out of the nine respondents who reported not undertaking any form of pre-MC regretted this, explaining that:

> *There is a lot that I would have liked to learn like how to cope with my husband's character* (**R139, Female: Study 1**).

> *I regret so much because there are times when I wish I had known more* (**R24, Male: Study 1**).

> *Marriage is good but certain things are difficult. I wish I had someone to teach me and talk to. Anyway, I have come to learn a few things through church meetings* (**R19, Female: Study 1**).

The data suggest that undergoing pre-MC is not only a common practice but beneficial. Irrespective of the key demographic factors (e.g. area of residence, age, education, income, church, tribe etc.), respondents underwent pre-MC. However, some factors (gender and relationship status) may be related to whether a person may or not undertake pre-MC. However, this association between gender/type of marriage/status and whether a person may or not undertake pre-MC should be taken with caution. This is because the proportion of respondents who were male (21 per cent) or engaged (7 per cent) or single (0 per cent) in the study sample (n=149) was low.

When running the test of association between demographic factors and whether to undertake the pre-MC or not, both Chi-Square and Fisher's Exact were used. Fisher's Exact test was carried out because when running Chi-Square, the cell distribution condition (minimal cell counts) was violated though the variance in the p value for both was not significant (Table 33).

A Fisher's Exact test showed statistical evidence of association between undertaking pre-MC, gender (p= 0.019) and type of marriage (p= 0.040). This is because for couples that wish to wed in church, undertaking religious pre-MC is mandatory but they may not undertake traditional marriage counselling. At the same time, undertaking traditional pre-MC is expected of every woman but not every man.

It is mandatory especially if you want to go through the church (marriage blessing) … (**R41, Female: Study 1**).

As a woman it is traditional for me to do so (**R115, Female: Study 1**).

On the other hand, there was no statistical evidence to support an association between undertaking pre-MC and other factors such as age, education, income church or tribe ($p > 0.005$).

Table 33: Results for the test of association between demographic factors and undertaking pre-MC)

Factor	Chi-square test (p=value)	Fisher's Exact (p=value)
Residence	0.551	0.752
Age	0.800	0.962
Gender*	0.008	**0.019**
Education	0.543	0.568
Income	0.357	0.342
Type of Marriage*	0.005	**0.040**
Church	0.299	0.438
Tribe	0.560	0.719

Data source: Study 1

6.3 Content of pre-MC

The teachings or topics covered during pre-MC were of particular interest to the development of the framework in this thesis. Studies carried out in Zambia (Mwanza et al., 2019; Nomanje & Mandyata, 2017) report that the topics covered during pre-MC include sex or sexuality, respect for husband and extended family, home management, communication, conflict resolution, and parenting expectations etc. The thematic analysis (Table 34) of data collected from Study 1 suggests that the topics covered during pre-MC, irrespective of the type (traditional or religious) are: pillars of marriage, bedroom matters, home management, social conduct, social norms and family planning.

However, the emphasis and details of topics covered during pre-MC may vary as explained by one respondent: "I am told that the religious teachings are not as detailed as the traditional ones and my friends have convinced me that I should do the traditional one" (R9, Engaged, Female, Study 1). Furthermore, it was evident that traditional pre-MC places emphasis on the sexual relationship and house chaos while the religious one on religious values of marriage:

How to keep the marriage in a Christian way, how to keep and raise my family as a man (**R147, Religious pre-MC, Male: Study 1**).

How to live in marriage according to our custom. Sex was the main topic because it is the main issue in marriage … (**R136, Traditional pre-MC, Male: Study 1**)
How to cook for my husband, how to clean, to respect him and how to treat him sexually (**R130, Traditional pre-MC, Female: Study 1**).

How to keep my home, that I am a woman and it is my responsibility to keep a home together… to love each other and put God first in all we do (**R115, Both traditional and religious pre-MC, Female: Study 1**).

Table 34: Thematic analysis on the topics covered during pre-MC, Lusaka district, 2019, Zambia

Theme	**Verbatim examples**
Pillars of marriage e.g. *love and care, respect, communication, problem resolution, faithfulness and forgiveness etc.*	Respect for my husband, know what my husband wants and likes, love faithfulness (**R138, Female**). How to take care of each other, how to solve problems … (**R64, Female**). How to respect elders, how to love my wife and how to treat in-laws (**R20, Male**). How to live with a woman, no fighting or chasing the woman … **(R135, Male**).
Bedroom matters e.g. *sexual relationship, personal grooming and confidentiality*	… how to dance or issues of the bedroom (**R29, Female**). … how to keep secrets (**R48, Female**). … how to please my husband sexually (**R5, Female**).
Home management e.g. *house chores, income (upkeep), budgeting and raising children*	All aspects of marriage such as managing the home, providing for the home, sex and so on (**R52, Male**). … how to cook, how to care for a man because men do not know how to look after themselves (**R65, Female**). How to budget with my partner … (**R100, Male**).
Social conduct e.g. *expected behaviour and company, respect and support extended family*	… how to receive relatives, how to respect in-laws and how to live happily with other people (**R132, Female**). Once married the type of people to associate with … (**R100, Male**). How to take care of the family, how to behave like some who is married, duty and responsibility of a husband (**R32, Male**).
Social norms e.g. *submission, humility, obedience, leadership and authority*	Submission and respect for your husband … (**R131, Female**). … how to be obedient and humble … (**R21, Female**). … that the man is the head of the house (**R66, Female**). … how to kneel before him and thank him (**R91, Female**).
Family planning e.g. *importance of births spacing, family size and FP methods.*	They told me once I give birth I should go back to them, they show me which family planning to use and they told me not to continuously have children (**R38, Female**). … they taught me about it and the need to ensure that we weigh ourselves and not just have children any how (**R63, Female**). They explained to me why it was important for us to space births so that they grow properly (**R91, Female**).

Data source: Study 1

A few respondents reported that family planning was covered during pre-MC (Table 34, samples of verbatim under family planning). The teachings addressed the importance of birth spacing, costs associated with child-bearing and FP methods. A majority of the respondents did not report this as one of the topics covered during pre-MC. Thus, pre-MC offers a readily available and culturally-correct platform to disseminate accurate information about FP.

The descriptive statistics from this study suggest that in most cases, pre-MC takes a total duration of one to three months (49.7 per cent) and each session lasts one to two hours (57.7 per cent). More importantly, many couples have a continuing relationship with their marriage counsellors because of the need to consult them as explained by some respondents:

> *My marriage counsellors helped me to build my marriage and I would like to consult them when I get stuck* **(R1, Female: Study 1)**.
>
> *I am still in touch with them because I still want to get more knowledge from them* **(R5, Female: Study 1)**.
>
> *So that I can refer to them when I get stuck* **(R12, Female: Study 1)**.

In fact, half (50 per cent) of the respondents indicated that they would consult marriage counsellors about FP while 38 per cent indicated that they would not . The reasons for not engaging marriage counsellors about FP or reproductive health were based on the perception that they may not have the right information or knowledge about FP:

> *The traditional marriage counsellors are not reliable sources of information on such matters (**R48, Female: Study 1**).*
>
> *They do not have the technical knowledge about these matters even though they know the different methods (**R67, Female: Study 1**).*

On the other hand, respondents also indicated that they would consult them because of their personal lived experience and in the event of conflict arising out of fertility decisions:

> *I think they have experience and knowledge so I would ask them* **(R79, Female: Study 1)**.
>
> *My husband used to oppose me using a contraceptive so at some point I had to seek the advice from the church marriage counsellors* **(R132, Female: Study 1)**.

Furthermore, marriage counsellors may still be a good source of information about traditional and natural methods because it is evident that they played a significant role in passing on indigenous knowledge about birth spacing methods as explained:

I did consult them because back in the days there were no family planning pills so I went back to ask what I could use (**R2, Female: Study 1**).

They actually talked about this during the marriage counselling and discouraged me against using contraceptives other than safe days (**R27, Female: Study 1**).

6.4 Influence of pre-MC on Fertility Decisions and Behaviour

Building on the conclusion of Kapambwe et al. (2013) that pre-MC can be used to disseminate information on sexual and reproductive health, Study 1 of this thesis explored the potential influence of pre-MC on fertility decisions and behaviour. The influence was explored using a short Likert scale. Exploratory factor analysis revealed two constructs, which were coded as husband-wife relationship and fertility decisions (Tables 35, 36 and Figure 43).

Table 35: Total Variance

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	***1.889***	31.489	31.489	1.889	31.489	31.489
2	***1.382***	23.032	54.521	1.382	23.032	54.521
3	.926	15.434	69.956			
4	.830	13.828	83.784			
5	.533	8.878	92.662			
6	.440	7.338	100.000			
Extraction Method: Principal Component Analysis.						

Table 36: Principal Component Analysis

Construct		Component	
		1	**2**
Husband-wife relationship	*Influence on Roles and Responsibilities*	.803	.030
	Influence on Leadership & Authority	.770	-.088
	Influence on Communication	.629	.311
	Influence on Sexual relationship	.462	.157
Fertility decisions	*Influence on FP Method Decision*	-.113	.822
	Influence on Family size decision	-.174	.759
Extraction Method: Principal Component Analysis a. 2 components extracted			

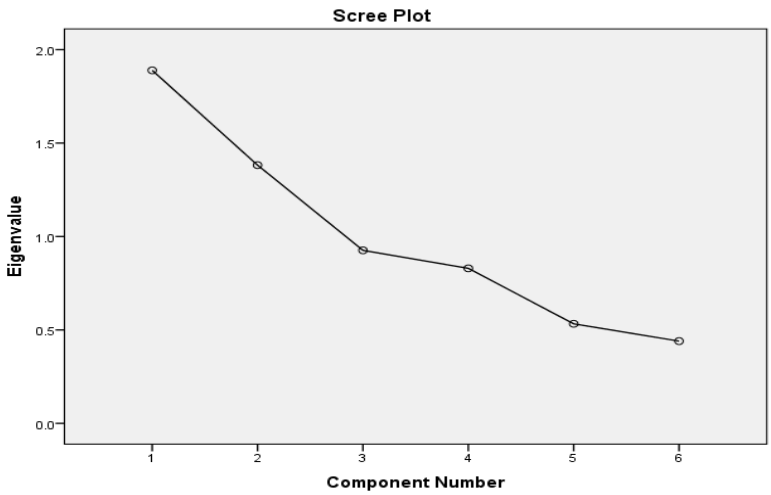


Figure 43: Scatter Plot (Exploratory Factor Analysis)

The scale was subjected to a reliability test (Cronbach's Alpha) and the results were 0.613 and 0.514 for the husband-wife relationship and fertility decisions respectively (Table 37). Tavokol and Dennick (2011) encourage the use of both Cronbach's Alpha and Factor analysis in testing the reliability of a scale. Furthermore, they caution interpretation of the Alpha (ideal range from 0.70 to 0.95) results because of variances in the length and dimension of scales. Gliem and Gliem (2003) assert that there is actually no lower limit to the coefficient.

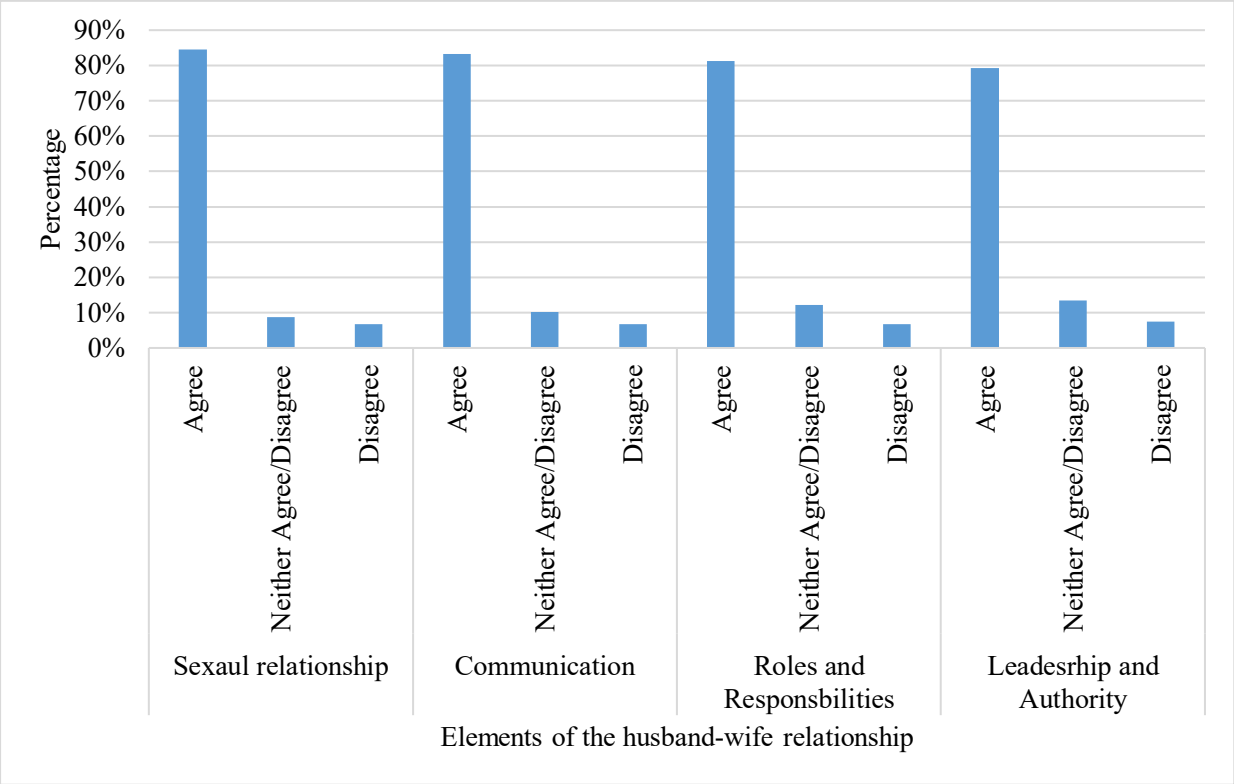
Table 37: Reliability Test on the scale used in the study, Lusaka province, 2019, Zambia

	Reliability Statistics		
Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	*N* of Items
Husband-wife relationship	0.613	0.617	4
Fertility decisions	0.514	0.520	2

Data source: Study 1

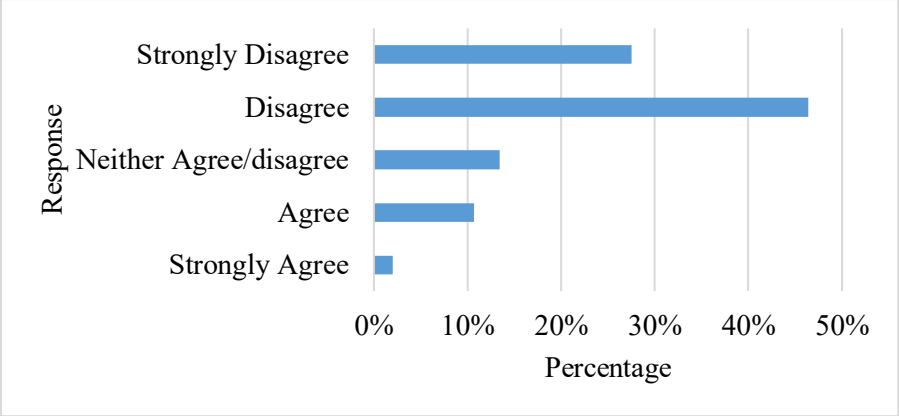
The closer Cronbach's Alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. Pallant (2005) also explains that for constructs that have fewer than 10 items it is common to get a low Alpha (anything above 0.005 is acceptable). In such cases, reporting the mean interitem correlation is recommended. In this study the mean interitem correlation was 0.288 (husband-wife relationship) and 0.351 (fertility decisions) which falls within the recommended range of 0.2 to 0.4. Though the test in this study was short, it was reliable and carried out on an adequate sample (n=149).

The descriptive statistics (Figure 44) suggest that the majority of the respondents were of the view that pre-MC influences a couple's understanding of roles and responsibilities, leadership and authority. It also influences their sexual relationship and the ways they communicate. Furthermore, the majority reported that pre-MC does not influence the fertility decision (Figure 45). However, views were not as clear in relating to contraceptive choice: 32% stated that it may while 30% said that it would not influence the contraceptive decision (Figure 46).



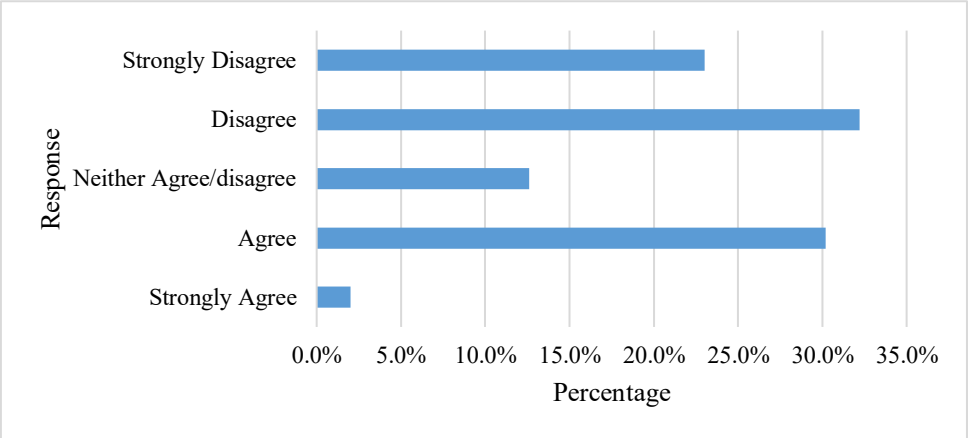
Data source: Study 1

Figure 44: Influence of pre-MC on the husband-wife relationship, 2019, Lusaka province, Zambia



Data source: Study 1

Figure 45: Influence of pre-MC on the Family Size Decision, Lusaka Province, 2019, Zambia, 2019



Data source: Study 1

Figure 46: Influence of pre-MC on the Contraceptive Decision, Lusaka Province, Zambia, 2019

Given that there are two types of pre-MC (traditional and religious), a test of association was carried out to explore the influence of the type of pre-MC on the four elements of the husband-wife relationship. Fisher's Exact test was carried out because the cell distribution condition under Chi-Square was violated. However, the variance in the p-value for Chi-square and fishers exact was not significant .

The results indicate that there is statistically significant evidence of association between the influence and the type of pre-MC undertaken ($p < 0.005$). However, the study did not establish which type of pre-MC has greater influence, especially because many respondents reported having benefited from both types and recommended undertaking both.

Furthermore, the data does not show whether the influence of pre-MC is negative or positive. Nonetheless, this influence has implications for this thesis because key elements of the husband-wife relationship (e.g. sexual relationship, communication, roles and responsibilities, leadership and authority) shape the spouse/partner interaction in fertility decision-making. For example, a Fisher's exact test results (Table 39) indicate an association between the Family size decision and the influence of pre-MC on a couples' understanding of leadership and authority (p= 0.008).

Similarly, the results indicate an association between the contraceptive decision and influence of pre-MC on a couple's communication (p= 0.001).These results support the understanding that in instances of fertility differentials between spouse/partners, the couple defaults to the fertility preference of the male spouse/partner because of social norms around leadership and authority. Equally, communication is important in the contraceptive decision. This is because of the need to avoid conflict with the male spouse/partner even though the female spouse/partner makes the ultimate contraceptive decision.

Table 38: Fisher's exact test on type of pre-MC and influence on the elements of the husband-wife relationship

Pre-MC Influence on	**Type of pre-MC**
	P value
Sexual Relationship	0.001
Communication	0.001
Roles & Responsibilities	0.001
Leadership & Authority	0.001
Family Size Decision	0.019
FP Method Decision*	**0.098**

Data source: Study 1

Table 39: Fisher's Test exact on the influence of pre-MC and fertility decisions

Pre-MC influence on:	**Family Size Decision**		**Contraceptive Decision**	
	Chi-Square (p- value)	Fisher's Exact (p-value)	Chi-Square (p-value)	Fisher's Exact (p-value)
Sexual Relationship	0.023	0.034	0.084	0.096
Communication*	0.017	0.028	0.001	**0.001**
Roles & Responsibilities	0.023	0.024	0.185	0.254
Leadership & Authority*	0.004	**0.008**	0.262	0.313

Data source: Study 1

The results of Study 1 about the contents or key teachings of pre-MC support those reported by other studies in Zambia (Mwanza et al., 2019; Nomanje & Mandyata, 2017). Clearly, pre-MC is important in Zambian society irrespective of the demographic profile or parity of people. These results support Kapambwe et al.'s (2013) conclusion that although the Zambian way of life has modernised, traditional premarital counselling remains valued. More importantly: "Marriage counsellors can be used to pass on information about sexual and reproductive health because they teach young women about sexual intercourse and hygiene" (Kapambwe et al., 2013, pg.64).

6.5 Chapter Summary

The emphasis on the need for 21st FP programs and interventions to be context-specific, evidence-based and sensitive to culture or society is justifiable. In view of this, this chapter offers evidence to support the use of pre-MC as an alternative or supplementary channel for disseminating information and FP service delivery in Zambian society.

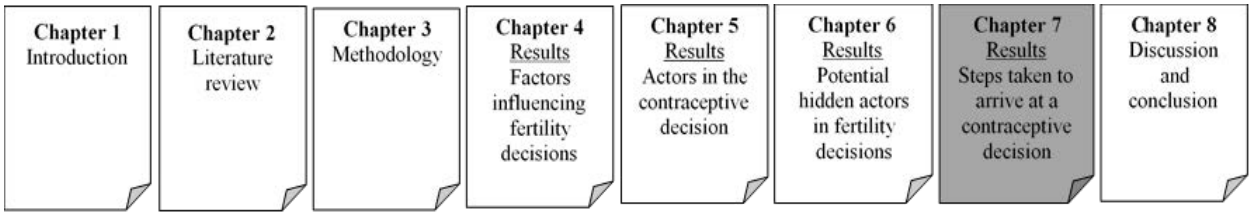
It is evident that although marriage counsellors are not frequently cited in fertility studies, they are potentially powerful hidden actors because their teaching shapes the husband-wife relationship and this forms part of the normative environment in which fertility decisions occur. Particularly, pre-MC teachings influence a couple's sexual relationship, their communication and their understanding of roles and responsibilities, leadership and authority. These elements of the husband-wife relationship in turn influence a couple's intra-interaction when making fertility decisions – especially the family-size and contraceptive decisions which may require negotiation or bargaining due to differences in desires or preferences and opinions.

Although the results suggest that the influence on the family-size decision is weak and may influence the contraceptive choice, marriage counsellors are trusted sources of information about marriage life. Moreover, a majority of people have a continuity relationship with their marriage counsellors – they are considered to be close relations or family friends and they recommend others to undergo pre-MC. Thus, these persons remain powerful actors in the social network web of Zambian society.

Marriage counsellors could be trained and used to disseminate correct information about contraceptives through the community-based distribution system. Community-based distribution systems are designed to improve access to FP services and commodities through the use of community health workers, mobile outreach services and drug shops (Aliyu, 2018;

Hoke et al., 2012). This system is already being implemented in Zambia and other countries in Sub-Saharan Africa (Hermandez, Akilimali, Muanda, Glover, & Bertrand, 2018; Masiano, Green, Dahman, & Kimmel, 2019; White & Speeizer, 2007).

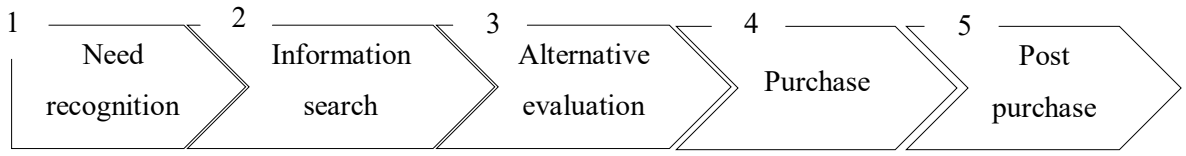
Chapter 7: Results on Steps Taken to Arrive at a Contraceptive Decision



7.1 Introduction

The focus of this chapter is the contraceptive decision-making process. Therefore, this chapter addresses the research questions: "what steps do people take to arrive at a contraceptive decision?" and "which factors and actors are active at the different stages of the contraceptives decision-making process?" To construct the decision-making process, this chapter relies on data specific to questions that relate to the steps individuals and couples undertake to arrive at a contraceptive decision. In addition, results and findings on other aspects covered in Chapters 4, 5 and 6 are incorporated in the construction process.

The process is guided by the five constructs (i.e. need recognition, information search, alternative evaluation, purchase and post-purchase) of the traditional consumer decision-making process (Figure 47). For the purpose of incorporating the identified actors and factors in the contraceptive decision-making process, the iteration of the EKB model of consumer decision making is relied upon (Chapter 2). This incorporates constructs such as information processing, individual characteristics, social influence and context. The constructed contraceptive decision-making process is overlapped with the Transtheoretical model (also discussed in Chapter 2). The Transtheoretical model is one of the few theories that places emphasis on stages of decision-making in the behaviour change process and this is useful in understanding the contraceptive decision-making process.



Source: Stankevich (2017)

Figure 47: Steps in the traditional consumer decision-making process

7.2 Awareness and Need Recognition

Many studies (Bankole & Onasote, 2016; Blackstone et al., 2017; Megabiaw, 2012) report high levels of awareness about FP among different population segments in African communities, including conservative ones. However, this does not guarantee uptake of modern contraceptives (Hoque, Ntsipe, & Mokgathe-Nthabu, 2013; Ochako, Mbondo, Aloos, et al., 2015). Despite the weak relationship between awareness and uptake of modern contraceptives (Hoque et al., 2013), information and knowledge about FP methods are important constructs of the contraceptive decision-making process.

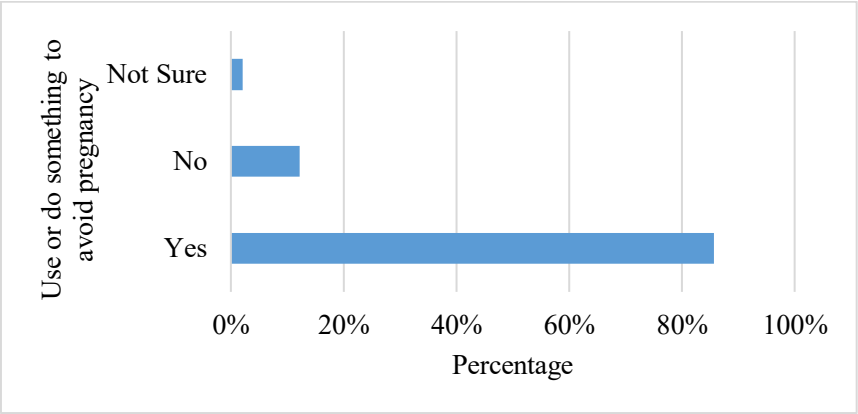
The undisputed need and universal approval of birth spacing, mainly for health benefits, resonates with the construct of "need recognition" in the consumer decision-making process (Figure 47). The first two steps in the contraceptive decision-making process, awareness and need recognition, are important but difficult to observe, as they are invisible. The assumption is that these two first steps (i.e. awareness and need recognition) occur in the minds of individuals or couples subconsciously, especially those who are sexually active, in a stable or union relationship, have set fertility goals and are within the reproductive range 15-49 years.

For the purpose of establishing whether people are aware of the need to use a contraception method or not, respondents were asked whether they use or do anything to prevent pregnancy and why? The descriptive statistics (Figure 48) suggest that a significant percentage of respondents (86 per cent) reported using some form of contraception for different reasons. Although the health benefits of child spacing and the need to limit family size are common reasons, there are other reasons, such as opportunity cost and high cost of living:

> *I do not want to have a child right now because of work. The law only allows one to get paid maternity leave after two years. Secondly I want to build my career, so I can't afford to get pregnant now and anyway right now we are struggling financially* **(R45, Female: Study 2**).
>
> *Having children is a good thing but I have noticed that things have changed. In our days we used to have many children but today it is not easy because of education and living expenses* (**R101, Male: Study 3**).

These responses suggest that respondents recognise the need to practice contraception for three main reasons: health benefits; opportunity costs; and the rising cost of living. These factors resonate with established objectives of contraception to space, postpone or limit births. However, recognising the need is one thing; taking steps to satisfy the need is another.

Therefore, respondents were asked what their subsequent steps were after realising that they needed to do or use something to prevent pregnancy. The results – discussed later in this chapter, show that upon recognising their need to practice contraception, they engaged in external information search by engaging or consulting their spouse/partner, close relations or visiting a health facility, where they interacted with FP service providers.



Data source: Study 2

Figure 48: Descriptive statistics on contraception practice as reported by respondents, Lusaka province, Zambia, 2019

The results of this study and of others (Blackstone et al., 2017) show that even though contraception is universally practiced and FP is encouraged, there is a general concern about the reported side effects of some modern contraceptives. For these reasons, some respondents expressed a desire for natural methods, cautious use of modern contraceptives and others had negative attitude towards modern contraceptive:

> *I would like to use herbs because I feel modern contraceptives have bad side effects. Otherwise FP is good for every woman intending to have kids. And every person should choose what is best for them* (**R10, Male: Study 3**).

Opinions on who should/not use modern contraceptives were evident. The perception is that only married people, particularly those who already have children should use modern contraceptives:

> *Contraceptives are ok for a short period of time and only when you have enough children not before* (**R27, Male: Study 1**).
>
> *Please do not encourage people who do not have children to use contraceptives* (**R88, Female**: **Study 3**).

This may explain the provider bias which is reported in other studies (Solo & Festin, 2019) and the low usage rate of modern contraceptives among adolescents or young people (15-35 years) who are not married. In view of this, some respondents expressed the need for more effort to reach certain segments of the population:

> *I think there should be more sensitisation especially among teenagers* (**R29, Female: Study 3).**
>
> *GRZ (Government of the Republic of Zambia) needs to increase awareness especially in rural areas* (**R38, Female: Study 3**).

In addition, the general comments or feedback from respondents (Table 40) suggests that the respondents were engaged and had personal interest in the topic. Specifically, respondents expressed a desire for service to be delivered in the community, more contraceptives to be designed for men and need for information and knowledge about FP. This feedback has several practical implications.

Firstly, it was clear that confidentiality and benefits of carrying out fertility studies are important. RAs explained the purpose of the study at the beginning of the interview but at the end of the interview some respondents still asked about it. Therefore, it is important to place emphasis on the purpose and benefits of the study at the beginning and close of interviews during data collection.

Secondly, the need for information and knowledge about FM and contraceptives was evident. Therefore, there is a need to expand the narrative on the purpose of contraception beyond birth spacing to postponing and limiting family size and to explain the potential side effects of the different methods to avoid myths and misinformation.

Thirdly, scale up of community service delivery or distribution (CBD) through the use of community health workers is likely to increase uptake because of the existing desire for private and home delivery of FP services.

Lastly, continued efforts to increase male involvement in FP programs is essential and a desire for more contraception options for men was evident.

Table 40: Thematic Analysis based on general comments about FP and contraceptives from respondents, Lusaka province, 2019-2020.

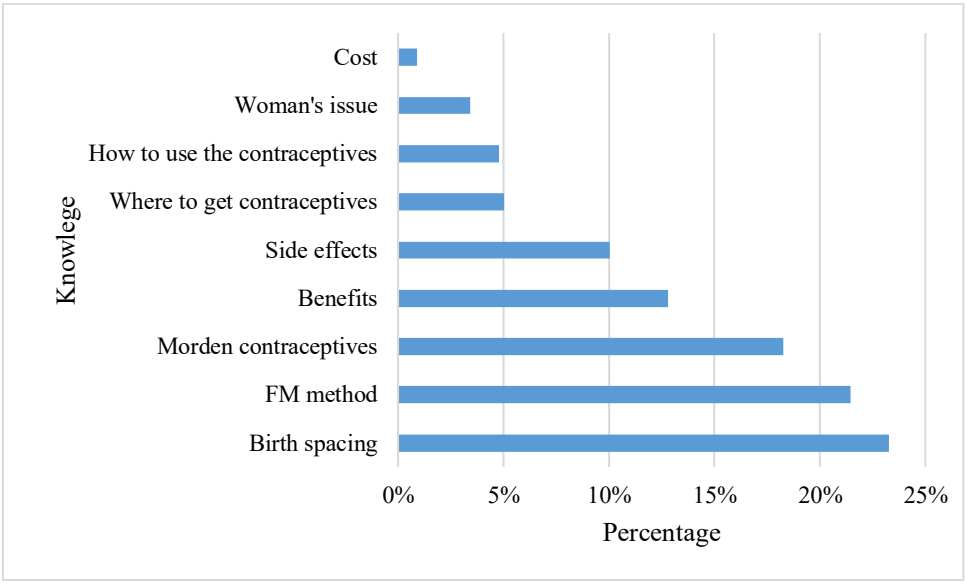
Theme	Verbatim examples
Purpose of research	Will this study help the people of Zambia in any way? (**R91, Female; 30-39 yrs.**). Why are you doing this research? (**R98, Male; 30-39 yrs.).** What organisation are you from? (**R108, Male; 40-49yrs.**).
Information & knowledge	Why do they advise people to use family planning? (**R38, Female; 20-29 yrs**.) Apart from contraceptives, is there any other way one can prevent pregnancy naturally*?* (**R65, Male; 20-29 yrs.)** Is it ok for us who have not had children yet to use contraceptives*?* (**R170, Female, 20-29 yrs.**). Why do most contraceptives have serious side effects? Is there any that has no side effects*?* (**R83, Female; 40-49 yrs.**). Why do some contraceptives interrupt monthly menstrual cycles? (**R174, Female, 20-29 yrs**.).
Side effects and myths	It is said prolonged use of condoms leads to increased vaginal water discharge. (**R40, Female; 20-29 yrs.).** I want to put the 5 years implant but I fear because they say it has a lot of side effects, why? (**R23, female; 20-29 yrs.).** Why does the pill make me feel dizzy? (**R75, Female; 20-29 yrs**.). Are there any permanent side effects? (**R32, Female; 30-39 yrs**.). What are the side effects of an implant? (**R59, Female; 20-29 yrs.).**
Service delivery	It should be easily accessible to both men and women (**R56, Female; 20-29 yrs.**). Why have you not brought any family planning with you? (**R89, Female; 20-29 yrs**.). Why don't health workers follow people door to door? (**R4, Female, 30-39 yrs.**).
Male involvement	Male contraception should be introduced also (**R57, Female; 20-29 yrs**.). I think that men should also be put on contraceptives (**R69, Female; 30-39 yrs**.). Why are there no contraceptives for men*?* (**R70, Female; 20-29 yrs.).** Are there contraceptives for guys? (**R157; Female; 50-59 yrs**.).

Data source: Study 3

7.3 Information Search

The second construct in the traditional consumer decision-making process is "information search". The iteration of the EKB model which was discussed in Chapter 2 differentiates between internal and external information searches. The internal information search refers to the internal memory in the brain – which is often the starting point. Study 3 suggests that nearly all respondents (97 per cent) had heard of FP or contraceptives. This indicates a presence of FP information in the respondents' internal memory.

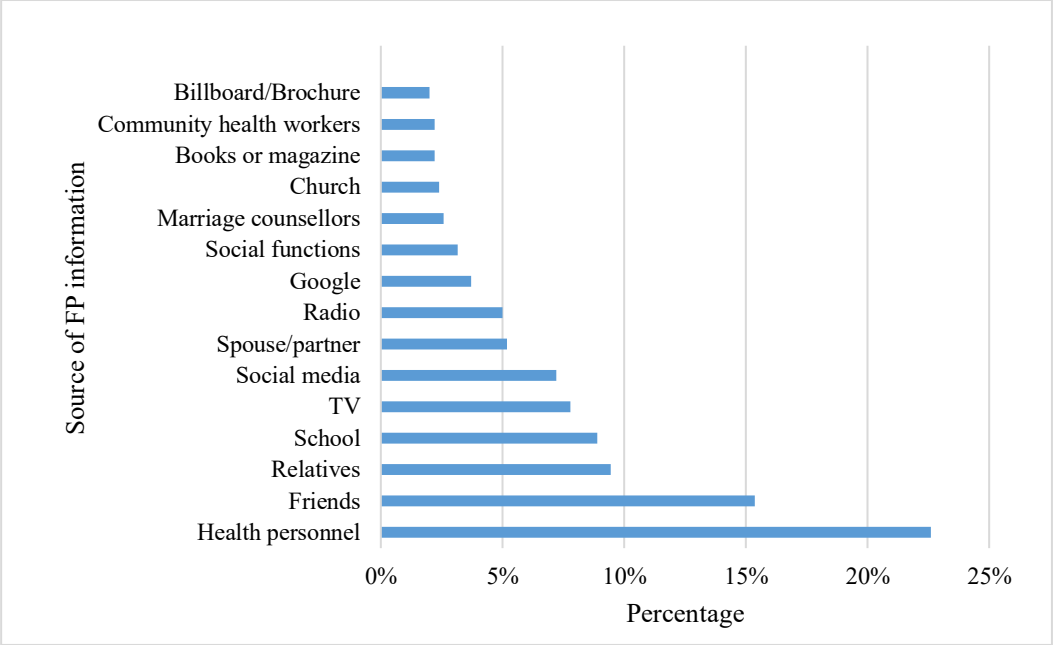
However, the proportion of respondents who knew something specific about FP or contraceptives ranged from 2-23 per cent (Figure 49). Many respondents reported having information about birth spacing, FP methods, modern contraceptives, benefits and side effects. On the other hand, low levels of information about the cost, access and correct use of modern contraceptives was reported. This shows gaps between awareness and knowledge especially on the correct use of methods. For example, one respondent asked: "which one is the best and how often should one take the pill?" (R139, Study 3). Thus, high awareness levels neither translate into high levels of knowledge nor do they guarantee adoption and correct use of modern contraceptives.



Data source: Study 3

Figure 49: Respondents knowledge about FP (more than one response possible), Lusaka province, Zambia, 2019-2020

In line with the assumption of the EKB model that insufficient information or knowledge in the internal memory triggers external information searches, external sources of information about FP are an important aspect of the "information search" stage of the contraceptive decision-making process. Figure 50 shows the different sources of FP information reported by respondents in Study 3. These sources of FP information can be categorised as interpersonal (e.g. spouse/partner, FP service providers, close relations-relatives, marriage counsellors, teacher), broadcast (e.g. TV, radio), print (e.g. books, magazine, brochures etc.) and outdoor (e.g. posters and billboards).



Data source: Study 3

Figure 50: Sources of FP Information reported by respondents (more than one answer possible), Lusaka province, Zambia, 2019-2020

From the descriptive analysis (Figure 50), it is clear that the most common sources of FP information are FP service providers (doctors/nurses), friends and close relatives. These results are similar to other studies. For example, Bankole and Onasote (2016) report that though television was one of the sources of information about contraceptives among female university students, their preferred sources were health workers, parents and university lectures. This is not surprising because fertility is a personal or private matter, as such people seem to prefer personal (face-to-face) or interactive forms of communication.

Low frequencies for broadcast media were recorded and lower rates for print and outdoor platforms (Figure 50) but slightly higher frequencies were recorded for social media,

school and marriage counsellors. Thus, it is reasonable to conclude that for purposes of creating awareness, less interactive platforms e.g. internet, television and radio, can be relied upon, while interactive and personal communication can be used to provide more specific information (expert counselling) but cautioned against some sources of interpersonal information:

> *I do not know much about these contraceptives that are available today but from what I have noticed, people have different opinions and experiences so it is important to ask at the hospital* (**R98, Male: Study 3**).

> *It is important for health practitioners to teach people about family plaining and the available options before they give them anything* (**R141, Male: Study 2**).

This thesis identifies potential pitfalls of interpersonal sources of information. Respondents reported obtaining information from both FP service providers (doctors and nurses) and close relations (e.g. mother, aunty, friends and siblings). However, triangulation of information from these different sources may result in a dilemma when the information is conflicting. Similar studies (Colleran & Mace, 2015; Ochako, Mbondo, Aloo, et al., 2015; Yee & Simon, 2010) confirm that people learn both true side effects and myths about modern contraceptives from their social network that provide information on lived experiences. Since these different sources provide useful information in the decision-making process, FP interventions or programs must ensure that efforts are made to ensure that correct information through these sources is communicated especially about the potential side effects of the contraceptives.

Evidently, information search is an important step in the decision-making process. The descriptive statistics (Table 41) suggest that more than half of respondents look for information (55 per cent), talk to someone (63 per cent), ask others about their lived experience of using modern contraceptives (59 per cent) and seek advice (53 per cent). Irrespective of gender (Table 42), persons consciously search for information from different sources – mainly other people. The challenge is the prevalence of inaccurate or misinformation about contraceptives from some of the sources. This inaccurate information or misinformation, when intertwined with facts, may result in myths, misperceptions and can be confusing:

> *Family planning is good but when it is about to expire the side effects become too much* (**R48, Female: Study 3**).

Most women are facing problems with contraceptives because they do not follow instructions given to them by their doctors (**R109, Female: Study 1**).

Some people say it gives cancer, some have prolonged periods and some have told me it depends on your body type so it's a bit confusing (**R17, Female: Study 1**).

It was notable that many perceive FP to be synonymous with modern contraceptives. From the comments and questions, it was clear that many people think that the term "family planning" means modern contraceptives such as pills, injections and implants:

What is the difference between family planning and contraceptive, which one is the best? (**R53, Study 3**).

I would not encourage anyone to take family planning because of the complications that are happening (**RI34, Study 2**).

Family planning is not good because it causes other people to stop giving birth (**R45, Study 1**).

The use of the term "family planning" to mean "modern contraceptive" presents a challenge because respondents who do not use modern contraceptives but practice contraception using other methods (e.g. traditional and natural) may not report that they practice contraception and this may distort statistics about the prevalence of contraception. For example, one respondent explained that:

We do not use contraceptives, we use natural things like safe days and withdraw that is based on the biology that we learned from school (**R149, Study 1**).

This is not peculiar to Zambia. In a study conducted in Burkina Faso, Rossier et al. (2014) report that by adding specific questions to the standard DHS questions about natural methods, more women reported practicing contraception. Rodriguez, Say, and Temmerman (2012) also explain that the use of the term "family planning" may not appeal to people at different stages of life. For example, an adolescent may not necessarily be interested in planning a family at this stage of their life but is more concerned about unplanned pregnancy. This misperception among respondents reflects the current language and framing of FP messages. There is a need to review FP messages and possibly change the narrative from promotion of "family planning" to promotion of "contraception" as suggested by Rodriguez et al. (2012).

Table 41: Information search activities undertaken in the decision-making process, Lusaka province, 2019.

Activity	Response	Gender		Total	
		Female	Male	Count	%
Look for information	*Yes*	19	8	27	55%
	No	10	9	19	39%
	Not sure	1	2	3	6%
	Total	30	19	49	100%
Talk to someone	*Yes*	22	9	31	63%
	No	7	9	16	33%
	Not sure	1	1	2	4%
	Total	30	19	49	100%
Ask others about their experiences	*Yes*	21	8	29	59%
	No	6	10	16	33%
	Not sure	3	1	4	8%
	Total	30	19	49	100%
	Yes	19	7	26	53%
	No	9	11	20	41%
	Not sure	2	1	3	6%
	Total	30	19	49	100%

Data source: Study 2

Table 42: Test of association between gender and information search, Lusaka district, 2019, Zambia

Activity	Chi-Square (p value)	Fisher's Exact (p-value)
Look for information	0.283	0.293
Talk to someone	0.182	0.126
Ask others about their experiences*	0.060	0.052
Seek advice	0.150	0.132

Data source: Study 2

7.4 Engagement of Third Parties

The preferred sources of FP information during the external search for information suggest that different persons are engaged or consulted in the contraceptive decision. This step of the contraceptive decision-making process helps to distinguish the roles of the different actors in the decision-making process as outlined in Chapter 6.

Not every actor is engaged/consulted nor is there a rigid sequence in which the actors are engaged. For example, some respondents reported that they did not engage their

spouse/partner because of them opposing use of modern contraceptives. Similarly, at the time when individuals or couples visit the health facility, some would have already decided what method to use while others would not have. Also, for persons or couples who decide to use natural methods, the visit to the health facility was unnecessary. These different scenarios were identified from the thematic analysis (Table 43) on the steps taken to address the need for contraception: i.e. seeking a solution.

From the results, it is clear that the female spouse/partner is the ultimate decision maker but requires the approval and support of the spouse. Thus, FP interventions need to be sensitive to the marital dynamics and target messages at the male spouse/partner to enable them to support and approve use of modern contraceptives. Similarly, the right information especially about side effects should be communicated to key persons in the immediate social network (i.e. close relatives) as they form an important source of FP in addition to that obtained from FP service providers.

Table 43: Thematic Analysis on the steps taken to arrive at the contraceptive decision, Lusaka province, 2019, Zambia

Step or Activity	Verbatim examples
Engage the spouse/partner	I talked to my husband about it because he is the one who wanted us to have more children (**R7, Female**). We sat down and agreed that with all the stories we have heard about family planning, using condoms is the best (**R6, Male**) We basically had a discussion with my wife and talked about the modern contraceptives then we tentatively agreed to use natural methods unless something comes up (**R16, Male**). We had a discussion, agreed and I permitted her to go to the hospital to get family planning (**R26, Male**).
Engage close relations	I consulted my sister and she advised me about the loop. I was young back then, about 20, and she said it was better than the pill because I was at school. At that time the implant was not available. She even sent, me to the clinic – University of Zambia (UNZA) clinic (**R5, Female**). I asked my mother who then told me to go and get information at the hospital (**R11, Female**). I sat down and thought about each family planning method and what I have heard and then I decided to tell a friend who told me about the flow app so I tried it (**R 15, Female**).
Visit a health facility	I was already working as a volunteer which gave me opportunities to know more about family planning so I knew what I could do. I went to the hospital and asked for the pills (**R3, Female**). My husband never wanted anything to do with family planning despite our situation so I just decided to go on my own to the clinic (**R8, Female**). I had prior knowledge about family planning from the knowledge I attained from school so I directly went to the hospital (**R24, Female**). After I realised that I needed to prevent getting pregnant right after giving birth, I went back to the hospital to ask for a contraceptive (**R45, Female**).

Data source: Study 2

7.5 Evaluation and Method Selection

Evaluation of available alternatives or possible solutions to a recognised need and the selection of the suitable solution are key constructs of the decision-making process. Method evaluation is crucial because it leads to the actual selection of the suitable method. At this point the main actor is the female spouse/partner – ideally supported by the FP service provider. Respondents cited different reasons and factors for selecting or using a particular method:

> *I feel taking the pill most people forget and it has had effects compared to the injection so mostly I prefer the injection* (**R7, Female; Study 2**).

> *I think the health of a woman, past experience e.g. if some has a C section, the age of your last child and the emotional status that one is in* (**R23, Female; Study 2**).

I think one's health status, I understand some methods are not advisable for some health conditions, I also think personal needs or goals – that is if you want to avoid for a short or long period of time and also the possible side effects of the different method (**R45, Female; Study 2**)

Christian values, for example the loop is believed to act like an abortifacient … Bible says go and multiply … (**R5, Female; Study 2**).

The verbatim comments show that the factors taken into consideration when evaluating the contraceptive methods include health concerns, potential side effects, mode of administering (pill/injection/implant), frequency (daily, monthly, etc.), values and health status. Other factors such as the objective (space, postpone or limit), personal characteristics (e.g. past experience, age and marital status) and supply (e.g. availability and accessibility) are also important at this point.

Though evaluation and ultimate method selection are important stages of the contraceptive decision-making process, they are not the final stage of the process. The consumer decision-making model places emphasis on the experience of the purchased good/service. This stage of the process determines whether there will be a repeat purchase or not. In the case of contraceptives, this refers to sustained use.

7.6 Experience and Sustained Use

Stankevich (2017) explains that identifying the "moments that matter" and the factors that influence these "moments" are important aspects of the consumer decision-making process. This is because these "moments that matter" indicate points at which consumers are open to external marketing stimuli. The experience that an individual or couple has of using the selected method is a "moment that matters" in the contraceptive decision-making process because it results in different courses of action or behaviour (Figure 51).

The experience (positive or negative) offers a basis for segmenting users which enables the design of target specific Social Marketing activities to enhance sustained use of effective contraceptives and reduce the chances of abandonment: i.e. users resorting to less effective methods e.g. traditional or folk.

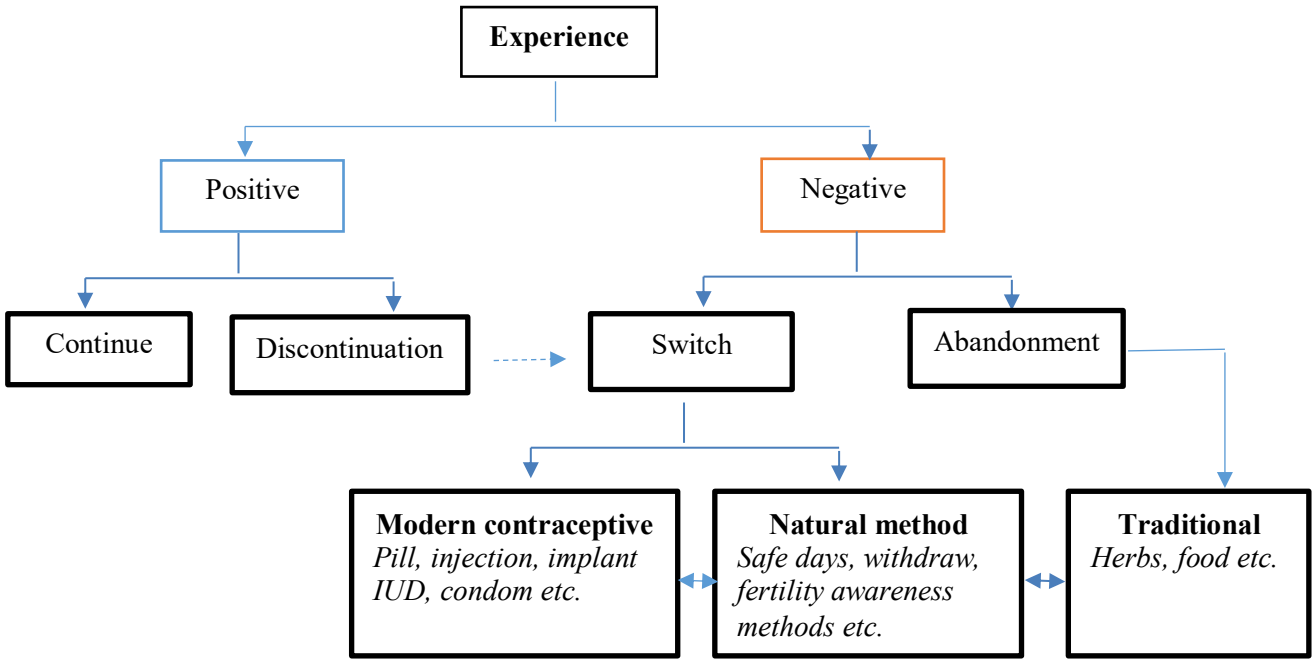


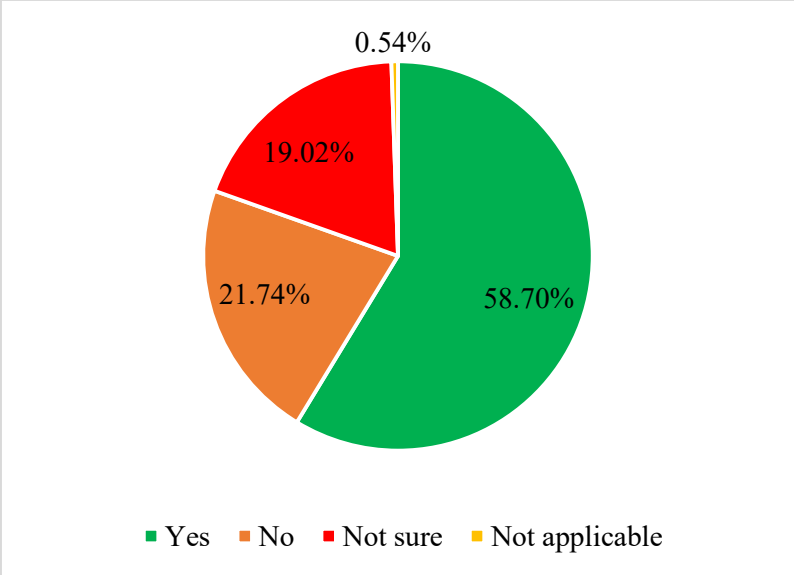
Figure 51: Experience as a basis for segmenting users (Author generated)

In this study, the construct "sustained use" was explored using data from the questions: "will you continue using the contraceptive method you are using?" "why?" "will you switch?" "why?" More than half (58.7 per cent) of the respondents indicated that they would continue using the current method while 21. 74 per cent said they would not and 19.02 per cent were not sure (Figure 52). Some of the respondents who said that they would continue using the currently used contraceptive method also indicated that they may switch or stop in future:

> *I have a bit of reservations about what I am using but for now it's working and I will continue* (**R120, Female; Study 3**).
>
> *If it stops working, I will change but for now it is okay* (**R86, Female; Study 3**).
>
> *Up until I get married or when I am in a serious relationship* (**R149, Female; Study 3**).

A Fishers' Exact test revealed a strong relationship between continued use of method and switching (Table 44). The need to continue or switch the FP method was also found to be dependent on the age (p= 0.001). Probing respondents about why they would continue using the current method revealed three key reasons: convenience; positive personal experience; and lack of knowledge about other methods (Table 45). The reasons for switching or discontinuing use of the selected method included: the desire to try alternative methods;

change in relationship status; intention to have a child (or children); or unsatisfied fertility goal; and simply having no need due to one reaching menopause or using a permanent/non-reversible method.



Data source: Study 3

Figure 52: Sustained use of FP method as reported by respondents, Lusaka province, Zambia, 2019-2020

Table 44: Test of association between method switch and continued use, Lusaka province, 2019-2020, Zambia

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	72.669[a]	9	0.000	0.000
Likelihood ratio	62.949	9	0.000	0.000
Fisher's Exact Test	58.086			0.000
N of Valid Cases	184			
a. 7 cells (43.8%) have expected count less than five. The minimum expected count is .04.				

Data source: Study 3

Table 45: Thematic Analysis of sustained use of selected FP method

Theme	Verbatim examples
Reasons for continued use	
Convenience • Mode • Frequency • Control	As a man it is easy for me to access it (**R24, Male**). I find it easy to use (**R38, Female**). It can be stopped at any time (**R51,Female**).
Lack of knowledge or information	I don't know what other method to use (**R8, Female**). When I get to know more about other methods I will use other methods (**R134, Male**).
Positive experience	Because it suits me best and no side effects (**R25, Female**). It is the best for me (**R115, Female**). Works for me, safe and protects from diseases (**R101,Male**)
Reasons for switching or discontinuing	
Desire for alternative method • Availability of alternative method • Fear of side effects and health concerns • Negative personal experience	I am looking for something that works better (**R165, Female**). When I find something, we will stop (**R72, Male**). There are a lot of options on the market. So would like to try something else (**R4, Female**). I want to change to something with less side effects (**R182, Female**). I have used contraceptives for too long it's time to give my body time to adjust (**R146, Female**).
Change in relationship status	I feel in marriage you cannot abstain but for now I will continue abstaining until I get married (**R140, Female**). We will use something different because we will be allowed to legally have sex with no worries (**R184, Male**). I hear they do not allow to use condoms in marriage (**R100, Male**).
No need • Menopause • Medical condition • Permanent method	I am almost reaching menopause and I am not remarrying any time soon (**R123, Female**). The one I have is a permanent method (**R8, Female**). I no longer have the ability to conceive (**R26, Female**). I can't use anything because currently I am pregnant (**150, Female**).
Intention to have a child(ren)/unsatisfied fertility goal	Up until I want to have another child (**R136, Female**). When we have our last child, we use something that will last longer in her body (**R127, Male**).

Data source: Study 3

As explained and demonstrated in other sections, the use of both the descriptive statistics and qualitative data enhances the understanding of fertility decisions. For example, the qualitative data shows that condoms are a popular method for persons who are not married because of the "illegal sex" connotation, which is associated with this method. This explains how sociocultural norms may influence ultimate method selection and switching – when one gets married, thus, the strong relationship between marital status and switching of method (Table 46).

Table 46: Test of association between demographic factors and sustained use of method, Lusaka province, 2019-2020, Zambia

Demographic factor	Continue		Switch	
	Chi-square (p-value)	Fisher's Exact	Chi-square (p-value)	Fisher's Exact (p-value)
Gender	0.199	0.162	0.176	0.173
Age*	0.000	**0.000**	0.000	0.000
Marital status*	0.389	0.286	0.000	**0.000**

Data source: Study 3

The social-cultural prohibition of the use of condoms in marriage – in spite of its dual function (reducing transmission of sexually transmitted disease as well as acting as a contraceptive) – disadvantages married people (see theme on relationship status, Table 45). This has been reported in other studies (Adefalu et al., 2018; Ochako, Mbondo, Aloo, et al., 2015) in African communities and may explain the provider bias such as discouraging single persons from using modern methods other than condoms, a practice confirmed by one respondent:

> *... One day I was so ashamed to go buy an emergency pill ... I was at the chemist but didn't get the courage to ask for it ... some young girl I think in her 20s walked in and asked for it ... but I think she was not Zambian or raised out of the country because of her accent. At the PPAZ clinic where I get my contraceptives ... the nurse is always telling me to just abstain since I am not married or use a condom. She said the same thing when I went to get the injection and last month when I went to have the loop inserted* (**R51, Female, University, Age 30-39; Study 3**).

In summary, the sustained use of effective contraceptives depends in part on the service delivery-provider attitude and the lived experience of using the selected methods. These are the factors that influence this particular "moment" which matters in the contraceptive decision-making process.

7.7 The Contraceptive Decision-Making Process

Relying on the technique of deductive thematic analysis, assumptions and a mix of constructs from the four theories in the theoretical framework (refer to Chapter 2) the contraceptive decision-making process (Figure 53) is constructed from the data collected in the three studies on which this thesis is based.

The construct of information process and steps taken to arrive at the contraceptive decision were adapted from the EKB Consumer decision model. Some of the steps of the decision-making process (e.g. information processing and need recognition) occur internally

– a mental process. Mental processing in the brain is one of the key constructs in the Theory of Conjunctural Action – the other being the need for flexibility.

In addition, the Transtheoretical model provides the constructs of the stages of decision-making in the context of behaviour change, which the EKB model does not have because it is a consumer decision-making model. The EKB Consumer model and Theory of Planned Behaviour both provide constructs about the factors (control beliefs- attributes of the alternative options) and actors (normative beliefs-social network) that affect the different stages of the contraceptive decision-making process.

The constructed framework is similar to the consumer decision-making process, which is premised on information processing and availability of alternatives. The framework shows the importance of information processes – obtained from different sources (i.e. internal memory or external-other persons or marketing-controlled sources e.g. TV, radio, internet) and the availability of different contraceptive methods (traditional, natural and modern).

The framework assumes that there is a set of key steps that persons take to arrive at the contraceptive decision. However, the sequence of the steps taken is flexible and some steps may be skipped depending on the context or circumstances. Secondly, some phases of the process occur unconsciously (e.g. awareness and recognition stage) while others require active involvement (e.g. information search, selection of contraceptive method). Thirdly, for purposes of evaluating FP interventions informed by this framework, the constructs in the Transtheoretical model can be relied upon to differentiate between the invisible or difficult to observe (i.e. pre-contemplation and contemplation stage) parts of the decision-making process and those that are more visible (preparation, action and maintenance).

Overall, the constructed framework shows the "moments that matter" and the factors that influence these points along the decision-making process. For example, at the point of method evaluation, the person is likely to settle for a contraceptive that best suits their needs and circumstances – in the consumer context, this is known as the "best deal" (Stankevich, 2017). At the evaluation and method selection point, it is important for FP service providers to pay attention to the client's needs, values and circumstances to support them in making the selection. The framework also presents a basis on which users can be segmented and how Social Marketing activities can be tailored to the needs of the users and actors in the contraceptive decision.

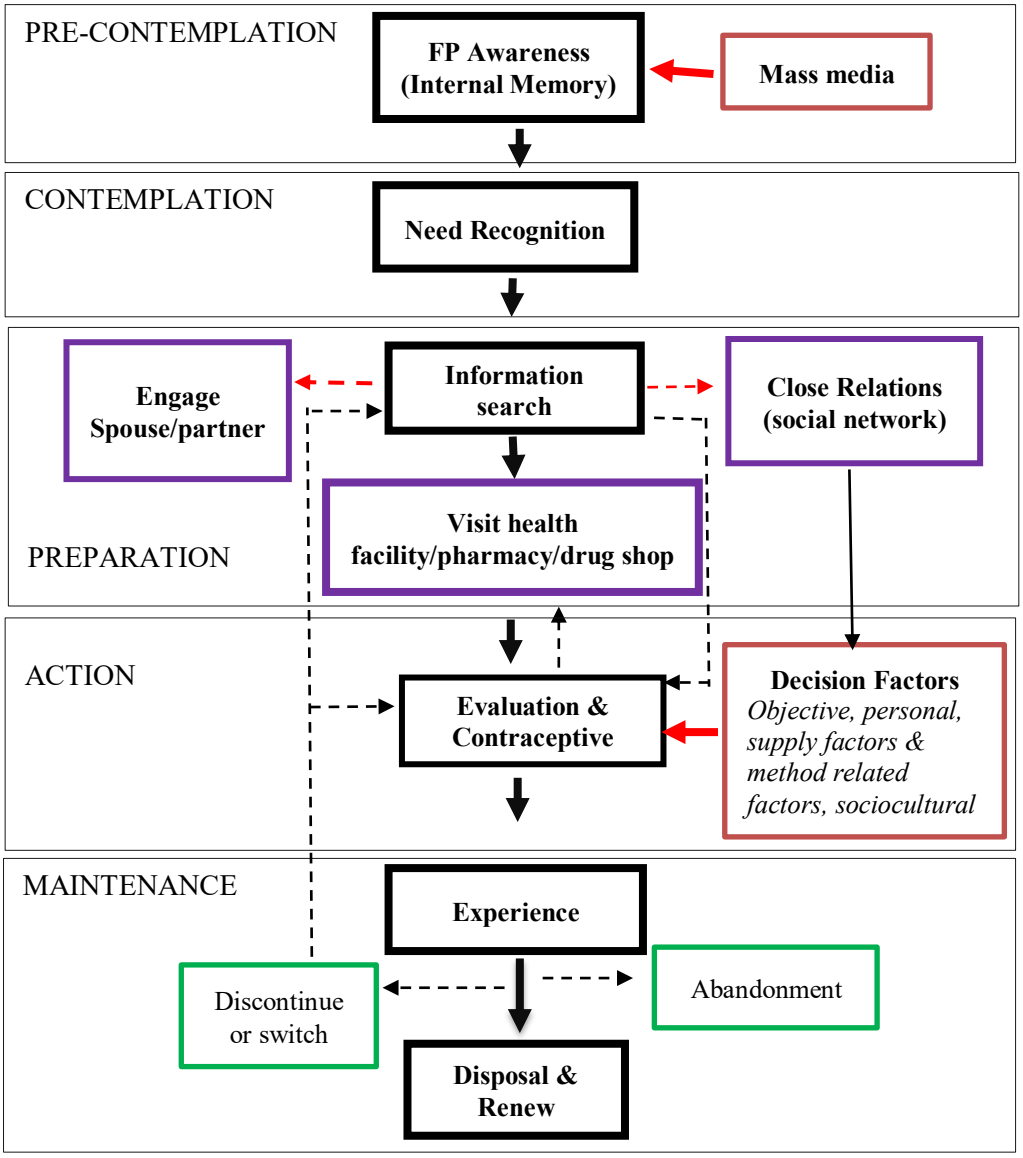


Figure 53: The Contraceptive Decision-Making process adapted from the EKB Consumer decision model

The thick black boxes show steps of the decision-making process, thick purple box show the actors, red boxes and red solid lines show the factors at play, green boxes show the possible outcome based on experience. Thick black arrows show the ideal sequence of steps, thin black dotted arrows show alternative sequence of steps.

7.8 Chapter Summary

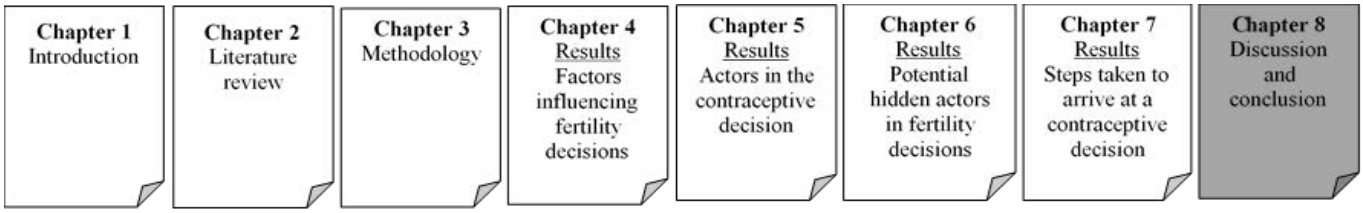
The aim of this thesis is achieved in this chapter: to construct the contraceptive decision-making framework which can support the use of a SM approach in FP programs for the Sub-Saharan region. First, the constructed contraceptive decision-making framework takes into account the importance of information in the decision-making process. Similar to the EKB Consumer decision-making model, this framework shows that internal memory (FP awareness) and active information search are important constructs.

Second, unlike other theories or models, this framework explicitly shows the engagement of other actors (i.e. spouse/partner, FP service provider and close relation-social network) in the decision-making process. Third, at the point of selecting the contraceptive method, a number of factors are considered. These factors include the objective (space, postpone or limit births), method (e.g. health concerns, side effects, mode and frequency), personal (e.g. age, health, marital status, values, beliefs) and supply (e.g. access and availability). These factors resonate with the construct of normative beliefs (influence of social network) and control beliefs poised by the Theory of Planned Behaviour.

Fourth, the Theory of Conjunctural Action stresses the importance of flexibility to reflect the nature of fertility decisions. Unlike other theories or models, this framework shows that the contraceptive decision-making process is not linear or rigid. Some people arrive at the contraceptive decision by moving from one step to another in a systematic manner while others skip certain steps because they are not necessary: e.g. not all will engage the spouse/partner or FP service provider. Some people make up their mind on what method to use before they visit the health facility and interact with FP service providers. Others hope to make up their mind after or during the process of interacting with the FP service provider. The decision-making process is not linear but the constructed framework maps out the key steps of the process which can be adjusted to suit the context.

More importantly, the framework provides a basis for evaluating FP interventions by differentiating stages that are difficult to observe (internal process) and those that are easy (observable) by relaying on the constructs of the Transtheoretical model. The construction of this framework makes both a practical and theoretical contribution. The framework offers a basis for enhancing the development of an integrated theory or model for fertility decision-making. Equally, the framework can be used by practitioners to design and evaluate FP interventions. This framework is a practical response to the call to scale up the use of theory and evidence based Social Marketing interventions which is needed to consolidate and fortify the discipline.

Chapter 8: Discussion and Conclusion



8.1 Introduction

Central to demographic and population studies is fertility behaviour and decisions relating to it. Given the complexity of fertility behaviour and decisions, a multidisciplinary approach to future FP programs is recommended (Sear et al., 2016). There are four fertility decisions:

1. to have a child (or children) or not
2. family size
3. birth interval/space and
4. contraceptive method.

These decisions are each influenced or affected by different factors and actors. Much of the extant research on fertility decisions explains what affects or influences fertility decisions but does not explain why and how people arrive at fertility decisions. Therefore, the focus of this thesis was on gaining a deeper understanding of the contraceptive decision. The contraceptive decision is made up of two questions: which category of contraceptive method to adopt and use (traditional, natural, modern); and which specific method to use?

The contraceptive decision directly relates to the adoption and sustained use of modern contraceptives, which among other things is instrumental in reducing fertility (Roser, 2020). Thus, the aim of the thesis was to construct the contraceptive decision-making framework that can support the use of a Social Marketing approach in FP programs for the Sub-Saharan region, using Zambia as a case study. This chapter summarises the findings of each of the research questions and the contributions that the thesis makes. A stance on the ongoing debate in Social Marketing is made; limitations and opportunities of future research are also outlined.

8.2 Discussion

Extant research on fertility decisions establishes the different factors (e.g. accessibility, potential side effects, sociocultural norms, quality of service delivery etc.) and actors (e.g. spouse/partner, service providers, mother, sister, in-laws, community leaders etc.) that are at play in fertility decisions. However, there is a lack of clarity on which factors affect which fertility decision. Knowing the factors and actors that affect the respective fertility decisions is important for social marketers because it helps to profile the decisions, making it easier to design target specific FP interventions.

The first question that this thesis answers is "which factors and actors affect the respective fertility decisions?" This thesis confirms that the decision to have a child or not in many cases is joint (i.e. made by the couple). In modern Zambian society, three key factors – religious beliefs, need for continuity of humankind, and to be provided and cared for in old age (social security) – influence this decision. Nearly everyone opts to have children (i.e. by default). In rare circumstances, some people opt not to have children for socially or culturally uncommon reasons (e.g. need to maintain body) while others cannot because of health or medical complications.

The results suggest that the ideal family size is four births/woman which is consistent with the Zambia 2018 DHS report. The family-size decision is influenced by two factors: ability to provide, care and nurture the child (or children); and risk of child mortality. These factors seem to be the rationale for the ideal family size – a number which strikes a balance between having too few or too many, in view of the cost of living and the need for old-age social security and risk of child mortality.

Similar to other fertility decisions, the birth-interval decision is jointly made but in most cases is "ad hoc" i.e. not pre-planned. The ideal birth interval was found to be three to four years which is consistent with the Zambia 2018 DHS report. This interval is significantly above the World Health Organisation's recommended interval of 33 months between two consecutive live births. However, it was evident that some couples or people prefer short intervals while others prefer long intervals. In addition, birth intervals are subject to uncontrollable factors such as failure of contraceptives or failed relationship or partnership (e.g. separation/ divorce or death of spouse/partner).

Although many people space births because of the health benefits for the child and the mother, ability to provide (education, health, food, childcare) and opportunity cost (e.g. time to work or go to school and self-care) are also key drivers. Generally, long birth intervals are

widespread in Sub-Saharan Africa but fertility remains high. This disconnect is yet to be fully understood and leads to different positions. Timaeus and Moultrie (2008) suggest that birth postponement as opposed to limiting or spacing will be key in the region's fertility transition. Lerch and Spoorenberg (2020) argue that fertility transition in the Sub-Saharan region will switch from lengthening of birth intervals to limitation of the family size.

The factors that affect the contraceptive decision include the objective (i.e. limit, space or postpone), personal (e.g. age, health, perceptions), method related (e.g. health concerns, side effects, mode and frequency of administering), sociocultural (e.g. social approval, marital status) and supply (i.e. availability and accessibility).

Unlike the other fertility decisions, the contraceptive decision is the most interactive because of the various persons engaged in the decision-making process. This has implications to consider as a social marketer, such as the need to manage the normative environment (i.e. social norms, power dynamics and social network influence) and train FP service providers to offer customised, friendly and supportive contraceptive counselling (Food and Nutrition Technical Assistance III Project, 2018).

Hence, the second research question: "what is the role of the respective actors in the contraceptive decision?" Although the female spouse/partner is predominately the ultimate decision maker, the male spouse/partner, FP service providers and close relations play different and important roles in the process. The male spouse/partner is engaged to discuss the adoption and use of a category of contraceptives (traditional, natural or modern), lobby for support and commitment. This step reduces misunderstanding-risk of conflict especially in the case that the male spouse/partner opposes the use of modern contraceptives.

In the event that the couple elects to use natural methods, the chances of jointly deciding which specific natural method (e.g. withdraw, safe days, period abstinence) are high because natural methods require the commitment of both spouses/partners. However, when a couple elects to use fertility awareness methods, the probability that the female spouse/partner will autonomously decide which method to use is high. This is the same for couples who decide to use modern contraceptives because most of the available methods are designed for women.

FP service providers (doctors and nurses) are consulted because of their expertise. They guide the selection process by offering technical assistance and knowledge about the contraceptive options. However, it was evident that they do not help people to deal with health concerns or fear of side effects. Close relations (e.g. relatives, friends and marriage

counsellors) are engaged to obtain non-technical information, for purposes of learning from their lived experiences of using modern contraceptives.

Furthermore, social network influence is widely reported in fertility research (Colleran & Mace, 2015; Yee & Simon, 2010). Beyond the commonly cited friends and close relatives, there are possibly "hidden" powerful actors within the social network web. However, discourse on social network hardly addresses the possibility of "hidden" actors within the social network. This thesis identifies overshadowed actors within the Zambian society – marriage counsellors. These are important to consider in a Social Marketing approach of FP programs in Zambia because they influence the normative environment in which fertility decisions are made, in that they reinforce religious and traditional values and customs about marriage through their teachings about communication, leadership and authority, roles and responsibilities. Hence, the third research question: "how does pre-marriage counselling (pre-MC) influence fertility decisions and behaviour?"

In Zambian society, undergoing pre-MC (traditional or religious) is mandatory for persons who want to marry in a culturally and socially right procedure. The results show that very few people do not undergo pre-MC mainly because they fear going against social standards e.g. getting pregnant before marriage, eloping, cohabiting. Generally, people benefit from undergoing pre-MC. Undertaking both traditional and religious counselling is recommended by people who have undergone pre-MC and couples have continuing, respectful and close relations with their marriage counsellors.

The teachings and emphasis of pre-MC influences a couple's sexual relationship, their understanding of roles and responsibilities, leadership and authority and couple communication. However, the teachings do not directly influence fertility decisions but shape the husband-wife relationship that in turn affects the fertility decision-making process especially in the event of differences in fertility preferences. In fact, other studies have established that marriage counsellors are instrumental in helping couples to overcome marital conflicts by addressing issues such as male dominance, intrusion of in-laws, communication breakdown and childlessness (Mwanza et al., 2019; Nomanje & Mandyata, 2017).

Marriage counsellors are trusted sources of information about marriage and are mentors. They are important actors who are rarely reported in fertility research in Zambia. Since marriage counsellors are considered to be close relations or family friends, by nature, they are prospective agents who can be easily incorporated in the community-based distribution system to disseminate accurate information about family planning during their marriage counselling sessions.

Addressing the preceding research questions sets the foundation for answering the fourth and fifth research questions: "what steps do people take to arrive at a contraceptive decision?" and "which factors and actors are active at the different stage of the contraceptive decision-making process?" These questions were instrumental in constructing the contraceptive decision-making process.

Using a deductive thematic approach, steps of the contraceptive decision-making process were identified from the data. The constructed framework (Figure 53 in Chapter 7) adopts a mix of constructs from the EKB Consumer decision which incorporates constructs from other theories such as the Theory of Planned Behaviour and Theory of Conjunctural Action. This framework is important to Social Marketing approaches to FP programs. The steps in the contraceptive decision-making process are:

1. awareness about FP
2. need recognition
3. internal and external information search, which includes engaging spouse and close relations, visit to a health facility
4. evaluation and method selection (contraceptive choice)
5. experience and
6. discontinuation (disposal) or renewal.

Using the constructs of the Transtheoretical model, these steps are split in two: some steps occur unconsciously (e.g. awareness and recognition stage); while others require active involvement (e.g. information search, selection of contraceptive method). However, the process is not linear and it does not assume a rigid sequence in which the steps are taken.

Information is an important factor in the decision-making process and it helps to recognise the need to practice contraception.

The external search for FP information shows how other actors are engaged in the process and the key decision factors at the point of selecting a contraceptive method. Although contraceptive choice is the ultimate step, it is not the final stage of the decision-making process. The final stage is maintenance which depends on the lived experience (negative or positive) of the contraceptive decision and disposal or renewal requirements (i.e. mode and frequency requirements of the contraceptive method).

This stage of the decision-making process is of great importance to marketers – repeat purchase or switch to alternative provider – because it determines whether the person or couple will continue to use the method, switch or abandon contraception. Thus, the

maintenance stage provides an opportunity for social marketers to segment users on the basis of experience and develop target specific strategies.

In answering the five research questions, this thesis enhances the understanding of the role of demand factors (e.g. gender norms, power dynamics, communication, social disapproval) and some of the supply factors (e.g. availability, method related and provider-client interaction) in an individual's or couple's fertility decisions and behaviour. The constructed contraceptive decision-making framework provides a graphic description of steps, stages and the factors/actors that exert pressure or influence at the different points of the decision-making process. Thus, this thesis makes both theoretical and practical contributions.

8.2 Theoretical Contributions

Different theories (e.g. Behavioural, Economic, Sociological etc.) have been applied and used to explain fertility decisions. Studies (Ajzen & Klobas, 2013; Das & Tarai, 2011; Stein et al., 2014; Weston et al., 2004) have also been carried out to understand the fertility decision-making process. However, to date, there is no theory that explains or maps out the fertility decision-making process (i.e. the steps and influences in the contraceptive journey). Hence the call for a multidisciplinary and integrated approach to developing a theory of fertility behaviour and decision-making (Morgan & Bachrach, 2011; Sear et al., 2016).

This thesis uses a convergent approach to construct the contraceptive decision-making process and this shows the key constructs in fertility decision-making. More importantly, this thesis demonstrates how empirical data can be used to adapt, refine and develop SM theories or frameworks – as demonstrated by the difference between the conceptual (figure 26) and final constructed frameworks (figure 53).

The constructed framework offers a basis for enhancing the development of an integrated theory on fertility behaviour and decision-making which can be used to predict fertility behaviour. This thesis makes three specific theoretical contributions (Figure 54).

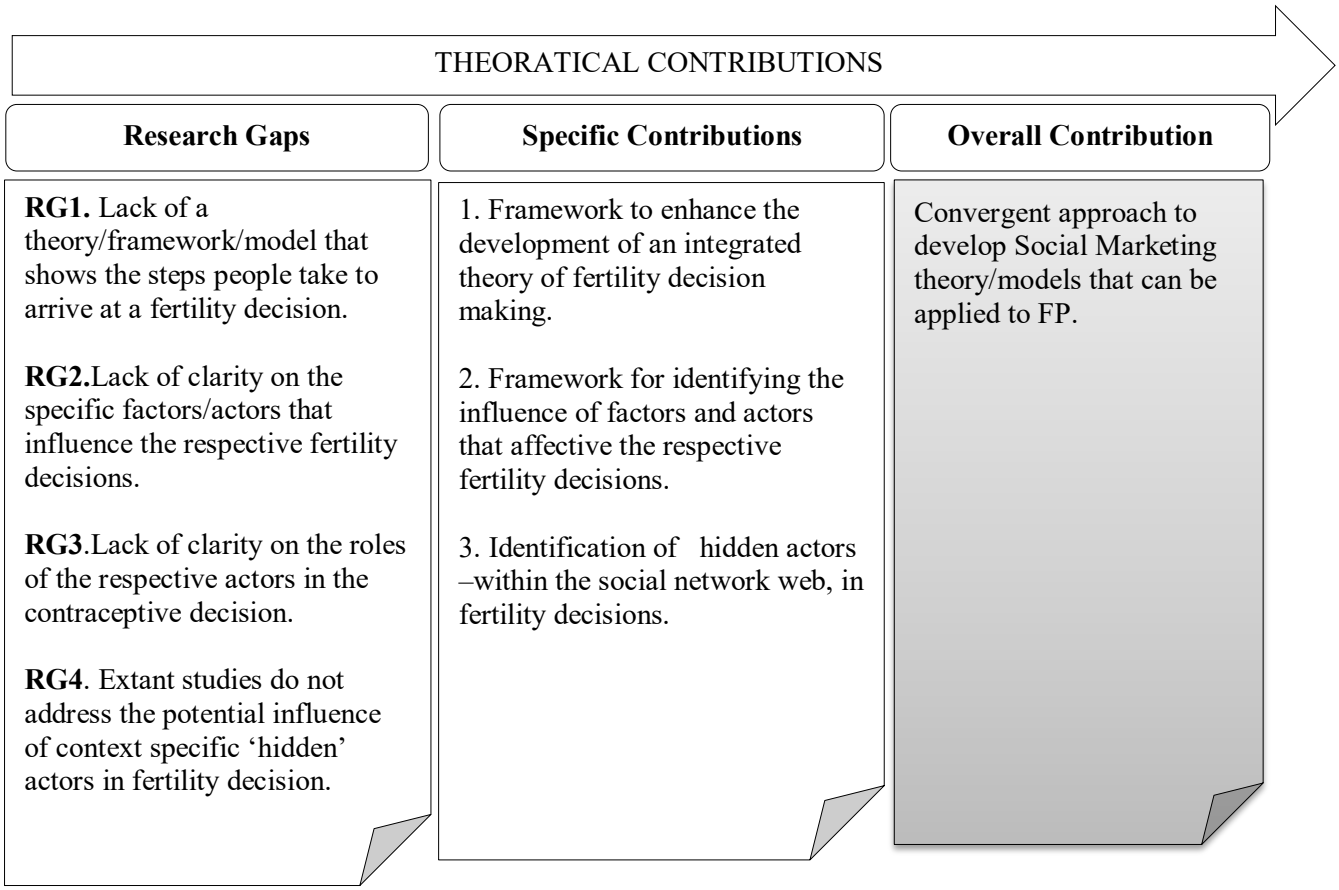


Figure 54: Theoretical Contributions

First, this thesis isolates the fertility decisions and explores the specific actors and factors at play in the respective decisions. A framework has been developed to help conceptualise the process. It provides a basis for developing a theory or model to organise and structure the factors and actors that affect the respective fertility decisions. This is useful because it enhances the development of interventions that address the context of the respective decisions.

Second, the two questions that relate to the contraceptive decision have been clarified. This helps to enhance the understanding on why the different actors in the contraceptive decision-making process are engaged or consulted. Clarity on the roles of the different actors is achieved, paving a path for developing models that can be validated using robust quantitative analysis method.

Third, the potential of hidden actors in the discourse on the influence of social networks in fertility decisions and behaviour is introduced and this which provides a new perspective on the application of social network theory to health behaviour.

Lastly, though the framework is developed using a fertility decision-making context and a mix of constructs from different theories, it can be reasonably assumed that the EKB

model can be adapted to non-purchase decisions other than contraceptive choices. Therefore, it is possible to use adaptation of dominant mainstream marketing theory, in social marketing research like EKB. Although not often done, this possibility should be explored in future studies.

8.3 Practical Contributions

Social Marketing is poised to be a dominant approach to addressing 21st century social problems (i.e. social, environmental and health) because of the growing evidence in support of its effectiveness and its cross-disciplinary approach (French, 2009; Gordon et al., 2016; M. Stead, Gordon, Angus, & McDermott, 2007). However, the key challenge is the low use of theory or frameworks in SM interventions hence the call by practitioners and scholars (Manikan & Russel-Bennett, 2016; Rundle-Thiele et al., 2019) to scale up the use of theory, frameworks and evidence in SM interventions in order to enhance the evaluation and replication of effective SM interventions.

This thesis provides evidence and frameworks that can be used to support a SM approach of FP programs and interventions in Zambia. As such, it has significance for those developing and implementing FP programs. Specifically, the contraceptive decision-making framework can be used to develop segment specific FP approaches as follows;

(i) Adolescents and young people may skip certain steps because they may not necessarily be interested in planning a family but are sexually active. Therefore, FP messages and service delivery for this group should be tailored around 'contraception' and not 'family planning'.

(ii) Couples or persons who are not or were previously married/in union/partnership and sexually active may also skip certain steps and require different message framing but similar to adolescents.

(iii) The majority of couples in union /married may take nearly all steps in the decision-making process but not in a rigid way or manner due to marital dynamics. Therefore, this segment would require more effort in counselling and support in contraceptive choices.

These segments are not only prevalent to Zambia but in other countries as well. More importantly, the framework is flexible allowing for adaptation to specific decisions making contexts.

Other specific practical contributions that this thesis makes are summarised in Figure 55. First, this thesis generates evidence that shows that some marriage counsellors

(traditional/religious) cover family planning during the mentoring process (i.e. pre-MC). However, the content and emphasis compared to other topics such as sexual relationship, roles and responsibilities is inadequate or low. Marriage counsellors, who are hidden within the web of the complex social network in the Zambian society, are unveiled. This provides evidence to support the strategic incorporation of marriage counsellors in the community-based distribution (CBD) strategy for FP programs in Zambia.

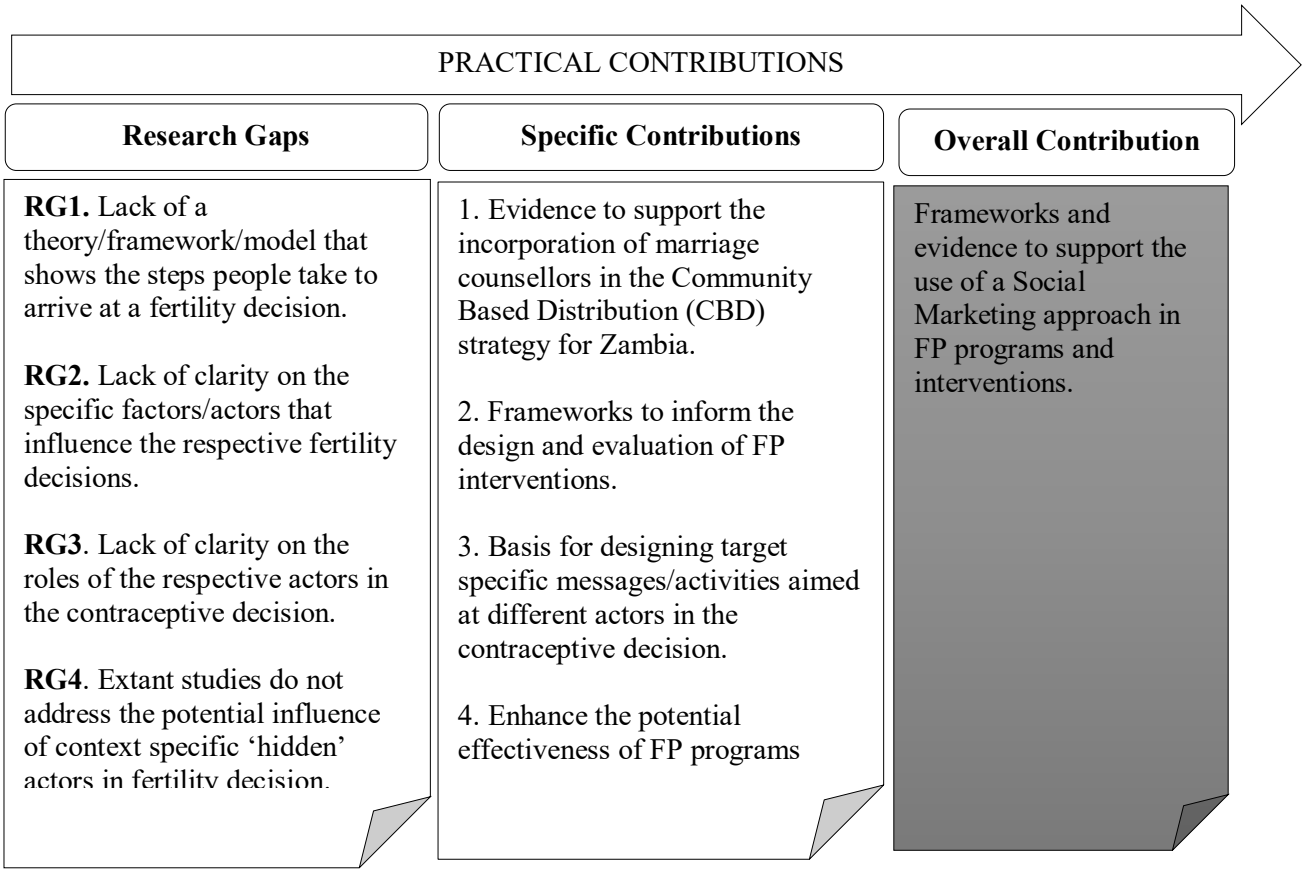


Figure 55: Practical Contributions

Second, this thesis and other similar studies (Adefalu et al., 2018; Aninyei et al., 2008; Aryeetey, Kotoh, & Hindin, 2010; Ochako, Mbondo, Aloo, et al., 2015) provide evidence to support the development of context-specific contraceptive information dissemination strategies. The results show a significant prevalence gap between awareness and knowledge about family planning and the preferred sources of information are those that offer in-person or interpersonal communication. Both impersonal and interpersonal sources of information play important but possibly different roles.

The challenge with interpersonal communication, especially from the immediate social network (i.e. close relations), is the risk of misinformation and misperceptions about modern contraceptives and the potential side effects. Consequently, contraceptive communication strategies should include the dissemination of accurate information about contraceptives through the preferred sources (social network) and impersonal channels of communication (e.g. TV, radio and internet) should be used to create awareness, though this does not translate into high levels of knowledge.

It is evident that the current wording and messages about FP in Zambia have contributed to the perception that "family planning" means "modern contraceptives" and modern contraceptives or contraception should only be used or practiced by people who are married. This misperception is also noted by Rodriguez et al. (2012) who argues that the use of the term "family planning" is not suitable or appealing to adolescents. Therefore, this thesis provides evidence to support the need to review and reword FP messages in Zambia in order to appeal to different population segments, especially the adolescents who form a significant proportion of the population.

8.4 Debate on Social Marketing

Although Social Marketing has been recognised as an effective approach to dealing with environmental, health and social problems, there is still a debate on whether it is a subdiscipline of marketing or a discipline in its own right. Questions have also been asked about how different it is from other disciplines such as communication and health promotion or education, which are information-dominant (McDermott, Stead, & Hastings, 2005).

This debate can be inferred from the two approaches that exist within Social Marketing circles. The traditional approach to SM advocates the replication of commercial marketing concepts, theories, tools, and techniques in the SM context. The convergent approach advocates the use of a mix of theory, models, concepts and tools from mainstream marketing and other disciplines (e.g. sociology, psychology, economics anthropology etc.).

This thesis supports the convergent approach because the constructed framework relies on the constructs of the EKB Consumer decision-making model, which is dominant in mainstream marketing but rarely used in social and behavioural change interventions.

The EKB Consumer decision-making model has constructs that resonate with those in the Theory of Planned Behaviour (e.g. normative and control beliefs), the Theory of Conjunctural Action (e.g. neural networks/schemas) and the Transtheoretical model (e.g. stages of decision-making). More importantly, it offers the constructs of the decision-making

process that are not reflected in many of the social and behavioural change theories or models. Thus, this thesis shows how a convergent approach can be used to develop SM theory using a multidisciplinary approach which is the backbone of both social and mainstream marketing.

Like the EKB Consumer model, which is easily adapted and applied to different purchase decisions, ranging from low risk, passive or habitual decisions (e.g. bread, toilet paper etc.) to high risk and conscious decisions (e.g. a house, furniture, insurance etc.), the constructed Social Marketing framework can be easily adapted and applied to health-related behaviours beyond fertility decisions and behaviour in the Zambian society.

8.5 Limitations and Opportunities for Future Research

This thesis has several limitations that also present opportunities for future research.

First, the thesis clearly distinguishes the factors and/or actors at play in the respective fertility decisions. Although the factors and actors may differ from one country to another, the four fertility decisions are not peculiar to Zambian society. Cross country / cultural studies in this area would extend knowledge and aid policy makers and other relevant stakeholders. This is discussed in more detail in the following section.

Fertility decisions are interlinked but given the sample size (n=384) and the kind of data that was collected, it was not possible to conduct analysis such as regression to show how they are interlinked. Future studies using large sample sizes can be carried out to understand how these decisions are interlinked.

Second, the constructed contraceptive decision-making framework does not use rigorous quantitative methods but is based on constructs from other theories and empirical data (qualitative and ordinal data). Therefore, it forms a good basis for developing a fertility decision-making theory that can be subjected to rigorous quantitative methods.

Third, this thesis confirms the assumption that pre-MC influences fertility decisions and behaviour but the scale that was used had less than 10 items. Due to this limitation, a specific research opportunity is unveiled to specifically look at the influence of pre-MC on fertility decisions and behaviour using a scale with more items under each aspect of the husband-wife relationship (i.e. Communication; Sexual Relationship; Roles and Responsibilities; Leadership and Authority). These elements can be taken to be constructs (with separate items) and tested to see how each influence the respective fertility decisions. In addition, future studies should determine the relative influence of pre-MC i.e. which type of pre-MC (traditional or religious) has greater influence and why?

Fourth, the thesis identifies the rationale or reasons for the desire of children and ideal family size using a sample that is drawn from an urbanised population. However, in Zambia and many other countries in the region, significant population differentials exist between settlement patterns (urban and rural). Therefore, if resources permit, this study can be replicated using a sample that has nearly equal proportions of respondents from the different settlement areas (i.e. rural, peri-urban and urban) in order to confirm whether the rationale or reasons hold across different settlement patterns.

Fifth, recruitment of male respondents to participate in the study was a challenge but is common in fertility research. A change in the data collection points from health facilities to areas prone to social interaction or casual conversations (e.g. bus stations and markets) was useful in overcoming the challenge. In addition, it was observed that despite collecting data from one private health facility which is attended by people who practice different religions (Christian, Muslim and Hindu), all respondents were Christian. Therefore, cultural competence and selective selection of data collection points should always be a top priority in fertility research.

Finally, the token of appreciation given to respondents may cause "contamination" of data collection points. That is a situation where prospective respondents deliberately queue up to take part in the study in order to get the token of appreciation. Researchers need to look out for this potential risk and avoid recruiting many respondents within a given radius of the data collection point.

8.6 Conclusion

There is no single discipline or theory that can comprehensively explain fertility behaviour and decisions because of its different facets. Similar to consumer behaviour, which changes in response to micro (i.e. personal factors) and macro factors (e.g. sociocultural and socioeconomic), fertility behaviour and decision-making is not static. Therefore, Social Marketing, which takes a multidisciplinary approach, is useful in informing and developing FP interventions and programs.

Consequently, the lacuna in understanding how people arrive at the contraceptive decision is addressed by this thesis using a cross-disciplinary approach. As envisaged in the convergent approach to Social Marketing, a dominant marketing theory – the EKB Consumer decision-making model – is combined with other theories and models (i.e. Theory of Planned Behaviour, Theory of Conjunctural Action and the Transtheoretical model) to construct the contraceptive decision-making framework.

Though the framework is constructed using a case study, Zambia offers the region's "average" fertility scenario and is one of the USAID's 16 Sub-Saharan priority countries for FP funding (United States Agency for International Development, 2020). Sub-Saharan Africa continues to be characterised by wide-ranging fertility and contraceptive prevalence rates (Ahmed et al., 2019). For example, the region's average fertility rate in 2019 was 4.6 births per woman but the fertility per country ranged from 7.2 to 2.4 births/woman in Niger and South Africa respectively (Family Planning 2020, 2020a; World Population Review, 2020a). Equally, the mCPR among all women ranged from as low as 3.3 per cent in Somalia to 67.2 per cent in Zimbabwe (Family Planning 2020, 2020a; United Nations Department of Economic and Social Affairs, 2020; World Population Review, 2020a). As at 2019, Zambia's average fertility rate was 4.7 births/woman and the mCPR among all women aged 15-49 was 48.5 per cent (Family Planning 2020, 2020c; Zambia Statistics Agency et al., 2019).

The contraceptive decision-making framework that has been constructed using a case study that reflects the "average" fertility transition in Sub-Saharan Africa can easily be adjusted to reflect dominant pressures or influences in a given country. The framework is flexible because sociocultural and socioeconomic factors within a region may still differ from one society or population to another. This is in line with the proposition that effective 21st FP programs for Sub-Saharan Africa are those that take a SM approach, are context specific (i.e. sensitive to sociocultural norms), flexible, and informed by a theory/model/framework like the constructed contraceptive decision-making framework.

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Appendices

Appendix 1: Ethical Clearance – James Cook University

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Appendix 2: Ethical Clearance – University of Zambia

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Appendix 3: National Health Research Authority (NHRA) Clearance

Appendix 4: Permission from Lusaka District Health Office

Appendix 5: Information Sheet – Study 1

JAMES COOK UNIVERSITY AUSTRALIA

INFORMATION SHEET FOR RESPONDENT

PROJECT TITLE: MARRIAGE COUNSELLING (Study One)

You are invited to take part in a study on marriage counselling. This study focuses on the key messages about the different themes covered during the marriage counselling sessions. The study recognises that pre-marriage counselling information is private or personal but your personal experiences and knowledge will enhance the knowledge about the potential influence of marriage counselling on fertility behaviour and choices. The information you provide will assist Family Planning Service providers to serve you and the community, better.

If you agree to be involved in the study, you will be invited to participate in a survey. It will take approximately 25 minutes to answer the questions. However, please do not feel obliged to take part in this study, it important that you voluntarily and freely take part. Therefore, you can stop or request to discontinue at any time without explanation or prejudice. In the event that you feel distressed by the interview, feel free to say so and if need be, you will be helped to overcome this by trained personnel at your local health centre.

Your signature/thumbprint will be taken as proof of your consent. Kindly note that, your name will not be taken note of and your responses will be taken to be confidential. The responses that you will provide will only be reported as aggregate data in the researcher's thesis for academic purposes.

The researcher, Lucy Nyundo, is a PhD student. Professors from James Cook University-Australia and Zambian Open University-Zambia, supervise her.
If you have any questions about the study, please contact your local health centre or the researcher and her primary supervisor.

Principal Investigator: Lucy Nyundo
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Phone:
Email: lucy.nyundo@my.jcu.edu.au

Supervisor: Professor Lynne C Eagle
College: James Cook University(CBLG)
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Email: lynne.eagle@jcu.edu.au

If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

Appendix 6: Information Sheet – Study 2

JAMES COOK UNIVERSITY
AUSTRALIA

INFORMATION SHEET FOR RESPONDENT

PROJECT TITLE: FERTILITY BEHAVIOUR

You are invited to take part in a study on fertility behaviour and choices in Zambia. The study focuses on lived experiences with respect to family planning choices. This study acknowledges that fertility preferences and choices are private or personal. However, your personal experiences and knowledge will enhance the understanding about user preferences and choices. Therefore, the information you provide will assist Family Planning Service providers to serve you and the community, better.

If you agree to be involved in the study, you will be invited to participate in an interview. The interview will take about an hour (60 minutes). However, please do not feel obliged to take part in this study, it important that you voluntarily and freely take part. Therefore, you can stop or request to discontinue at any time without explanation or prejudice. In the event that you feel distressed by the interview, feel free to say so and if need be, you will be helped to overcome this by trained personnel at your local health centre.

Your signature/thumbprint will be taken as proof of your consent to (a) be interviewed (b) tape record- but not mandatory. Kindly note that, your name will not be taken note. Your responses will be taken to be confidential and only reported as aggregate data in the researcher's thesis for academic purposes.

The researcher, Lucy Nyundo, is a PhD student. Professors from James Cook University-Australia and Zambian Open University-Zambia, supervise her.
If you have any questions about the study, please contact your local health centre or the researcher and her primary supervisor.

Principal Investigator: Lucy Nyundo
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If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

Appendix 7: Information Sheet – Study 3

JAMES COOK UNIVERSITY
AUSTRALIA

INFORMATION SHEET FOR RESPONDENT

PROJECT TITLE: FERTILITY BEHAVIOUR

You are invited to take part in a study on fertility behaviour and choices in Zambia. The study focuses on lived experiences with respect to family planning choices. This study acknowledges that fertility preferences and choices are private or personal. However, your personal experiences and knowledge will enhance the understanding about user preferences and choices. Therefore, the information you provide will assist Family Planning Service providers to serve you and the community, better.

If you agree to be involved in the study, you will be invited to participate in a survey. The survey will take about 35 minutes. However, please do not feel obliged to take part in this study, it important that you voluntarily and freely take part. Therefore, you can stop or request to discontinue at any time without explanation or prejudice. In the event that you feel distressed by the interview, feel free to say so and if need be, you will be helped to overcome this by trained personnel at your local health centre.

Your signature/thumbprint will be taken as proof of your consent to take part in the survey. Kindly note that, your name will not be taken note of and your responses will be taken to be confidential. The responses that you give will be only be reported as aggregate in the researcher's thesis for academic purposes.

The researcher, Lucy Nyundo, is a PhD student. Professors from James Cook University-Australia and Zambian Open University-Zambia, supervise her.
If you have any questions about the study, please contact your local health centre or the researcher and her primary supervisor.

Principal Investigator: Lucy Nyundo
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If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
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Appendix 8: Consent Form - Study 1

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Appendix 9: Consent Form – Studies 2 and 3

Appendix 10: Instrument for Study 1

SECTION	RESPONSE OPTIONS
Section A: Respondent's Profile	
1. Area of residence	Open
2. Age	15-19, 20-29, 30-39, 40-49, 50-59, 60 +
3. Gender	Male, Female
4. Main Household Income	Own job, Spouse/Partners job, Own business, Spouse/partners business, other, prefer not to say
5. Level of Education	Never been to school, Primary, Secondary, College, University, Prefer not to say
6. Religion	Christian, Hindu, Muslim, None, Prefer not to say
7. Church	United church of Zambia, Pentecost, Seventh Day Adventist, Baptist, Anglican, Jehovah's Witness, Catholic, New Apostolic, Other, Prefer not to say
8. Tribe	Lozi, Bemba, Chewa, Ngoni, Tonga, Lunda, Kaonde, Luvale, Other, Prefer not to say
Section B: Marriage Counselling	
9. Current Relationship Status	Civil Marriage, Customary Marriage, Religious Marriage, Polygamous Marriage, Engaged, On Separation, Divorced, Widowed, Prefer not to say
10. Undergo Pre-MC	Yes, No, Prefer not to say
11. Reason for undergoing Pre-MC	Expected to do so, Personal benefit, Not sure, Other (*Tick all that apply*)
12. Type of Pre-MC done	Traditional, Religious, Both, Other, Prefer not to say
13. Decision marker of type of Pre-MC to undertake	Myself, Church, Spouse/Partner, parents/Guardian, Close Relatives, Not sure (*Tick all that apply*)
14. Cost of Pre-MC	>K200, K201-K400, K401 +, Not sure
15. Person responsible for covering Pre-MC Costs	Myself, Parents/guardians, Spouse/partner, Close Relatives, Church, Not sure (*Tick all that apply*)
	Why? Briefly explain:
16. Duration of Pre-MC	Once/week for 6 months, Once/week for 3 months, Every day for a month, Up to counsellor, Not sure
17. Duration of Pre-MC session	1-2 hrs, 3-4 hrs, 5 hrs +, Varies, Not sure
18. Pre-MC Themes/topics	Communication, Sex, Roles and Responsibilities, Family Planning, Behaviour of a married person, Budgeting(Finance), Conflict management/ Problem-

	solving, leadership and authority, Decision-making (*Tick all that apply)*
	Other, please specify
19. Continuing relationship with Pre-MC counsellors	Yes, No, Not sure
	Why? Briefly explain
20. Regret undergoing Pre-MC	Yes, No, Not sure, Not Applicable
	Why? Briefly explain
21. Recommend Pre-MC to others	Yes, No, Not sure
	Why, Briefly explain
22. Recommended type of Pre-MC	Religious, Traditional, Both, Not sure
	Why? Briefly explain
23. Reasons for not doing Pre-MC	Not in spouse/partner's tradition or culture, no one to make the arrangements, we eloped, costly, time consuming, cohabiting, see no need, no one we/I know is doing it, not sure, prefer not to say (*Tick all that may apply)*
	Other, please specify
24. Regret NOT doing Pre-MC	Yes, No, Not Sure
	Why? Briefly explain
Section C: Influence of Pre-MC	
25. Couple's sexual behaviour	Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree
26. Couple communication	
27. Couple's understanding of roles and responsibilities	
28. Couple's understanding of authority and leadership	
29. Couple's understanding of authority of in-laws	
30. Couple's decision on family size	
31. Couple's decision on contraceptive method	
Section D: Fertility Choices	
32. Current/desired fertility	0, 1, 2, 3, 4, 5+
33. Family size decision	Ask spouse/partner, agree with spouse/partner, It is what I wanted, what my spouse/partner wants, up to God/Nature/ Not sure
	Other, briefly explain

34. Reasons for having/wanting children	Family/clan continuity, Childless life is unfulfilling, Gift from God, social expectation, Provide/care for me in old age, childless marriage is unfulfilling, love children, not sure, prefer not to say (*Tick all that apply*)
	Other reasons, please specify
35. Factors considered when making family size decision	Partner/spouse' view, health status, income, relationship status, view of marriage counsellors, views of close relatives, age, Culture/traditional values, Religious values (*Tick all that apply*)
	Other factors, please specify
36. Average birth space between current children (months)	>12 , 13-24, 25-47, 48+, NA
37. Recommended birth space	>12 , 13-24, 25-47, 48+, Not sure
38. Preferred gender of a child	Boy, Girl, Does not matter, Up to God
	Briefly explain
39. FP method used	Condom, Pills, Withdraw, IUD, Implant, Emergency Pill, Herbs, Breastfeeding, Safe day, withdraw, injection, Sterilisation, being careful, not sure
	Why? Briefly explain
40. Factors considered when selecting FP method	Cost, easy to use, convenient, side effects, people 'recommendation, other people's' view/experience, where to get it, religious values, health, availability, age, previous experience, privacy of use, partner/spouse views, current no. of children, relationship status, social/cultural values, effectiveness, Not sure *(Tick all that apply)*
	Other, please explain
Section E:Social Network Influence	
41. Consult spouse/partner about FP method	Yes, No, Not sure
	Why? Briefly explain
42. Consulted third parties about FP	Friend, Parents/Guardians, Church elders, marriage counsellors, health personnel, Neighbour, Sibling, In-law, Elders am close to, No one, Not sure *(Tick all that apply)*
	Other, please specify
43. Reasons for consulting third parties	Seek approval, enquire about what to do/use to prevent pregnancy, seek views about family size, ask where to get contraceptives, help resolve fertility conflict, ask about personal experience with contraceptives, seek recommendation, Not sure *(Tick all that apply)*
	Other, please specify

44. Respondents comments/suggestions about FP methods/contraceptives	Open

Appendix 11: Instrument for Study 2

SECTION	RESPONSE OPTION/TYPE
Section A: Respondent's Profile	
Q1. Gender	Male/Female, Other-*Please Indicate*
Q2. Area of residence	Open Question
Q3.Age (years)	15-19, 20-29, 30=39, 40-49, 50-59, 60+
Q4.Education	Never been to school, Primary, Junior Secondary, Senior Secondary, College, University, *Prefer not to say*
Q5. Source of income	Business (self-employed), Employed, Unemployed, Dependent
Section B:Gender Roles	
Q6a.Role of man/woman in the household	Open Question
Q6b. Role of man/woman in the community	Open Question
Section C:Fertility Preferences and Intentions	
Q7a.Have Children	Yes, No
	Why? Open question
Q7b.Actual/Current fertility	1, 2, 3, 4, 5+
Q7c.Intended/Desired fertility	1, 2, 3,4, 5+
Q7d. Difference in Actual and Desired fertility	Why? Open question
Q7e. Family size decision marker	Who? Why? Open question
Q7f.Child timing decision maker	Who? Why? Open question
Q7g.Desire for additional child(s)	Yes, No
	Why? Open question
Q8a. Reasons for having children	Open question
Q8b. Ideal family size	1, 2, 3, 4, 5+
	Why? Open question
Q8c. Gender preference	Girl, Boy
	Why? Open question
Section D: Decision-Making	
Q9a. Use/do anything to prevent pregnancy	Yes, No.
	Why?
Q9b. What is used	Open question
Q9c. FP Method decision maker	Who? Why? Open question
Q9d. Point when birth spacing is first practiced	Open question
Q10a.Actions taken after deciding to practice birth spacing	Open question
Q10b.Talk to anyone	Yes, No.
	Whom? Why?
Q10c.Look for information	Yes, No.
	Where? Why?
Q10d.Seek advice	Yes, No.
	From whom? Why?
Q10e.Ask others about their personal experience	Yes, No.
	Whom? Why?
Q11a.Knowlege about birth spacing/pregnancy prevention	Open question
Q11b. Source of knowledge or Information	Open question
Q12. Factors considered in FP method choice	Open question
Q13. Role of spouse in FP method choice	Open question
Q14a.Third parties consulted in family size decision	Whom? Why?

Q14b.Third parties consulted in FP method choice	Whom? Why?
Section E: Social Network Influence	
Q15a.sociocultural factors in family size decision	Open question
Q15b.Sociocultural factors in FP method decision	Open question
16a.Consult marriages counsellors about FP methods.	Yes, No.
	Why? Open question
16b.Consult Religious/community leaders about FP or Reproductive health.	Yes, No.
	Why? Open question
Section F: Decision outcomes	
17a. Happy with fertility choices (individual)	Yes, No.
	Why? Open question
17b.Happy with fertility choices (average/general)	Yes, No.
	Why? Open question

Appendix 12: Instrument for Study 3

SECTION	RESPONSE OPTIONS
Section A: Respondent's profile	
Q1. Area	Open
Q2.Gender	Male/Female, *Prefer not to say*
Q3.Age (yrs.)	15-19,20-29, 30-39,40-49, 50-59, 60+
Q4.Education	Never been to school, primary, Junior secondary, senior secondary, college, University, *Prefer not to say.*
Q5.Income	Salary, Business (self-employed),Dependant, *Prefer not to say.*
Q6.Relationship Status	Single, Married, Engaged, On separation, divorced, Widowed, *Prefer not to say.*
Section B: Family size decision	
Q7.Plan/have children	Yes, No.
Q8.Reasons for wanting/having children	Care/provide for me in old age, Bible says so, Natural need, Society expects me to have, Inherit my estate, Continue Family name/legacy, I love children, source of joy/pride, respect, please spouse/partner/other – *Tick all that apply.*
Q9.Desired fertility	1, 2, 3, 4, 5+
Q10. Family size decision maker	Me, spouse/partner, couple, God/nature, Not sure.
Q11.Reasons for not having a child(s)	Medical complication, trying to have, not married, tool old, not sure, too young, Prefer not to say.
	Other-please specify.
Q12. Ideal Family size	0, 1, 2, 3, 4, 5+
Q13. Preferred Gender	Girl, Boy, Not sure.
Q14.Ideal birth interval (birth space)-yrs.	>1, 1-2,3-4,5+, Not sure.
Section C: Awareness	
Q15.Heard of FP	Yes, No.
Q16. Knowledge about FP	Cost, side effects, FP methods, women's issues, how to use contraceptives, types of contraceptives, health benefits, source of contraceptives-*Tick all that apply.*
	Other please specify
Q17.Source of FP Information	Hospital/clinic, Friends, Radio, Google/internet, School. Church, Spouse/partner, Social media, NGOs, Relatives, TV, Books/Magazines, Posters/Billboards/Brochures, Social media-*Tick all that apply.*
Section D:Contraceptive choice	
Q18.Intend/use FP method/Contraceptive.	Yes, No, Not sure.
Q19.Previously used any FP method/contraceptive.	Yes, No.
Q20. Contraceptive /Method used.	Condom, Pills, injection, implant, herbs/food, withdraw, safe day, IUD/Coil/Loop, sterilisation, Emergency pill, abstinence, just being careful, breastfeeding-*Tick all that apply*

Q21.Reasons for Contraceptive/method.	Effective, easy to use, affordable, less side effects, an in control, start/stop when I want, many people use it, no need to go to the hospital, easy to conceal, was told it's the best for me, availability-*Tick all that apply*.
Q22. FP method/contraceptive decision makers.	Me, spouse/partner, Doctor/nurse, couple, Not sure.
Q23a. Consult spouse/partner about FP method/Contraceptive.	Yes, No, Not sure.
Q23b. Reasons for consulting spouse/partner about FP method/contraceptive.	Approval, Consent, Agree, Avoid conflict, hear their view, get support/commitment, respect, inform-*Tick all that apply*
Q23c.Reasons for not consulting spouse/partner about FP method/contraceptive.	Not necessary, entirely my decision, my body, spouse/partner has little knowledge/ignorant
Q24. Spouse aware of FP method/Contraceptive	Yes, No, Not sure.
Q25a. Consult health personnel	Yes, No.
Q25b.Reasons for consulting health personnel	Expert knowledge, right information, trained, experience, their job, do not lie/mislead, help me deal with fears-*Tick all that apply.*
Q26a. Consult others	Yes, No
Q26b.Whom	Relatives, Friends, Church elders, marriage counsellors, Work mates, Neighbour-Tick all that apply
	Other-please specify.
Q26c.Reasons	Hear their views/opinions, hear their experience,
Section E: Decision outcome	
Q27. Happy with Family size decision	Yes, No, Not sure.
	Why? Open question.
Q28. Happy with Contraceptive/FP method	Yes, No, Not sure.
	Why? Open question.
Q29. Happy with Birth interval decision	Yes, No, Not sure.
	Why? Open question.
Q30.Continue using Contraceptive/method	Yes, No, Not sure.
	Why? Open question.
Q31.Switch method	Yes, No, Not sure
	Why? Open question
Section F: Respondents feedback	
Q32. Questions about FP or contraceptives	Open question
Q33. Comments about FP or contraceptives	Open question

Appendix 13: Preliminary discussions (verbatim samples)

SAMPLE VERBATIM	THEME	ASSUMED STAGE
First born children are unplanned for , marriage makes it easy to accept the pregnancy, they are wonderful surprises (DE1).	On set of Family Planning	Pre-FP
People often seek FP help because of some sort of discomfort they experience with their fertility and sex life for example, one may not have a child, or may have a problem with child spacing, others want to simply stop having children and then the youths simply want to have sex but not children…(DE3).	Discomfort and need for solution	Need recognition
…It is out of this that they seek help maybe from clinics, NGOs, at times they just go to a pharmacy, though many of them first talk to their peers or family, those who are married may talk to their partners and also consult their marriage councillors. I think that's when they go to the health centre where possible (DE3).	Take action to find solution	Seek solution
It is tricky, you see one of the things I have noticed is that they get mixed messages about traditional/natural methods and the modern contraceptives. They often get this from social interactions (DE1).	Different sources of information	Information search
"*From what I have noticed, it seems women often want to use a method that will be sort of approved or favoured by their partner or peers and family…"* (DE2).	Approval	Social Approval
… Another thing I have noticed is that the experience that women have in using a particular method is what will also influence what they will tell and influence other women…In terms of modern contraceptives, a bad experience results in change of type of contraceptive and if the experience is still bad, this often leads to women completely stopping the use of modern contraceptives (DE2).	Personal or actual experience	Experience
Something that needs to be appreciated is that there is some sort of bargaining or negotiation process that women have to undergo with regards family planning and this is what I can call some sort of social negotiation (DE1).	Negotiation and bargaining	Negotiation

Notes:

- ✓ Preliminary talks with practitioners at Society for Family Health and Scale Up Family Planning in Zambia prior to formal data collection.
- ✓ DE stands for Domain Expert.