EXPLORING ICT-SUPPORTED FORMAL WOMEN BUSINESS NETWORKS (eFWBNs)

THE CASE OF KENYA AND SOUTH AFRICA

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DECLARATION

I, Deborah Olufunmilola Ajumobi, hereby declare that the work presented in this thesis is my own unaided work, and is, to the best of my knowledge and belief, original, except as acknowledged in the text. I hereby declare that I have not submitted this material, either in whole or in part, for a degree at this or any other institution.

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ACKNOWLEDGEMENT

The journey to the completion of this thesis has been the most challenging but also the most growth inducing one. I would not have made it this far without God, the author and finisher of my faith, the one who has given me everything I needed including the following people who I have the pleasure of extending my gratitude to.

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PREFACE

Parts of this thesis have (1) appeared in a publication and (2) been accepted for presentation and publication. Details are as follows:

(1) Towards a theoretical model to explore ICT-supported Women business networks in Sub-Saharan Africa. Proceedings of the Third International Conference on Advances in Women's Studies, Buffalo, New York, USA, 30-31 July, 2016.
(2) Influence of Governance on the Effectiveness of Formal Women Entrepreneurial Networks (FWENs). 12th European Conference on Innovation and Entrepreneurship (ECIE 2017), Paris, France, 21-22 September, 2017.

The acceptance by the scholarly community has provided guidance and encouragement to the production of this thesis. The published works have been revised, updated and synthesised into this thesis

ABSTRACT

The primary purpose of this study was to examine and understand the nature of Information and communication technology (ICT) supported formal women business networks (eFWBNs) and their contribution to the development of women entrepreneurs. For over a decade, studies on women's entrepreneurship, particularly those in sub-Saharan Africa, have reiterated the importance of, and need for, women's involvement in formal women business networks (FWBNs). In this study, FWBNs are defined as networks that have women entrepreneurs as key actors and are often affiliated with consultants, business practitioners, and government. FWBNs provide benefits and access to useful resources that are not easily accessible to women entrepreneurs due to several constraints. FWBNs have been found to be slow to leverage ICTs to facilitate and enhance their activities even in the era of globalisation. While FWBNs exist in sub-Saharan Africa, there is a dearth of research on their characteristics, structure and operation. Particularly within the information systems field, there is paucity of recearch around the integration and use of ICTs in WBNs. Thus, there is limited guidance on what makes a FWBN achieve its objectives and how these networks may leverage technology to enhance and facilitate their operations and activities. For these reasons, this study sought to shed light on the nature of eFWBNs and their use of ICTs. To achieve this objective, multidisciplinary theories were reviewed and an integrative theoretical framework developed. This revealed that an eFWBN is a configuration of distinct but inter-related elements – actors, relationships, resources, governance, external support and ICTs – which interplay to provide contributions and benefits to women entrepreneurs.

This thesis proposed that the stronger the coherence among the core elements of the eFWBN, and the operating and support mechanisms, the greater will be their contribution and benefits. This proposition was tested in an empirical study involving three network cases in Kenya and South Africa, using mixed methods. The qualitative data was analysed using thematic analysis, and converted to quantitative data using the quantitisation technique. The quantitised data and the data collected using quantitative methods were combined to test the model using cluster analysis.

The cluster analysis resulted in three clusters representing the three eFWBNs cases in this study. The findings revealed that the Kenyan networks had achieved coherence amongst the

elements of the network and as such attained good outcomes. However, the South African network did not report good outcomes, suggesting they had not attained coherence amongst the element in the network. The findings also provided results contrary to the observations in literature about the use of ICTs in eFWBNs. In this study, not only ICTs were highly leveraged at the network-level and were an integral part to the strategy, the existence and operation of the network.

This research makes significant contribution to knowledge by providing insight and understanding into an under-researched area (eFWBNs). The key theoretical contribution of this study is the integrative theoretical framework that overcomes the limitations of earlier theories used to study networks. It integrates various theories into a framework that identifies and explains more comprehensively the various aspects and operations of eFWBNs. It also advances the configurational theory as an effective approach to measuring complex relationships.

This study also makes significant methodological contributions. There is currently a dearth of knowledge on how to fully integrate both qualitative and quantitative data in mixed methods research. Thus, by adopting the quantitisation technique, this study provides knowledge on how to convert qualitative data to quantitative data to achieve synthesis of both methods in a single study. Also, the adoption of realism as a philosophical stance helped to overcome the challenges of mixing methods and paradigms in one research project.

The findings of this study also have practical implications. The findings showed that at the membership level, women entrepreneurs need to apply more agency in establishing relationships and translate the acquired resources within the network into benefits for their businesses. At the network-level, the evidence revealed that leaders of eFWBNs need to ensure they balance the needs of their members in order to carry the members along and preventing them from feeling excluded. The findings also asserted the importance of developmental, private and public organisations to eFWBNs. Lastly, government and practitioners can draw from the understanding provided of eFWBNs, to create and establish policies that can aid women entrepreneurs' successes and growth. The theoretical, practical and methodological contributions are further discussed in this thesis. The study concludes with a discussion on the limitations of the study and recommendations for future research.

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LIST OF ABBREVIATIONS AND ACRONYMS

WBN – Women Business Networks

FWBN – Formal Women Business Networks

eFWBN – ICT-Supported Formal Women Business Networks

ICT - Information and Communication Technology

NAWE - Nigerian Association of Women Entrepreneurs

WIMBIZ - Women in Business and Management

BPW Nigeria - International Federation of Business & Professional Women

BWASA - Business Women's Association of South Africa

KAWBO - Kenya Association of Women Business Owners

FEWA - Federation of Women Entrepreneur Associations

ANOVA – One-Way Analysis of Variance

"I have seen flowers come in stony places
And kind things done by men with ugly faces
And the gold cup won by the worst horse at the races,
So I trust, too."

- John Masefield

CHAPTER 1:

INTRODUCTION

"The greatest challenge to any thinker is stating the problem in a way that will allow a solution." - Bertrand Russell

1.1 BACKGROUND TO THE STUDY

With the establishment of women entrepreneurs as drivers of economic growth (Winn, 2005; Buskens & Webb, 2009; De Vita et al., 2014), attention has shifted to women entrepreneurship. To encourage and develop women entrepreneurship, governments, NGOS and world bodies have contributed monetary investments, initiatives, development programmes and even policies to this effect. Nonetheless, a large number of women entrepreneurs are still struggling in terms of social and economic development (UNCTAD, 2014). Studies report that they face constraints with their businesses, especially in sub-Saharan Africa (Woldie & Adersua, 2004; Sadi & Al-ghazali, 2010; Witbooi & Ukpere, 2011; Kehler, 2013). A number of recommendations have been put forward in order to assist women entrepreneurs in overcoming the constraints they face and attaining increased social and economic development (OECD, 2004; Matthew, 2010; Vossenberg, 2013). A recommendation that resonates across studies and fora is the need for and importance of women joining professional and formal business networks. While network research spans across various disciplines and has gained wide popularity, there is a scarcity of research relating to formal women business networks (FWBNs). Formal women business networks (FWBNs) can be defined as networks involving several ties that offer or provide women with resources that are necessary and beneficial to their businesses, and have the characteristics of professional networks described by Huang et al., (2013). These networks are usually offline and provide professional advisors, loan guarantee schemes and serve as formal sources of support (Delanoe, 2013; Huang et al., 2013). Some of these networks are created from women groups or women associations and are sometimes funded by private or public organisations (Bierema, 2005).

Studies on women entrepreneurship, particularly those in sub-Saharan Africa or developing countries, have suggested that the involvement of women entrepreneurs in FWBNs can provide them with useful resources and skills for their businesses that may not otherwise be readily available or accessible to them (Greve & Salaff, 2003; Weber, 2006; Manolova et al., 2007; Hanson & Blake, 2009; Redd, 2014; Kim & Sheredan, 2014). Such resources can be in the form of access to new markets, opportunities, social and business contacts, and information; while the skills are derived from knowledge acquired from other actors (Davis, 2012). Women entrepreneurs' involvement in these networks can help steer them to better business

performance and growth and help ground them better in social and economic development as they overcome globalisation challenges (Han & Benson, 2010; Dawson et al., 2011; Davis & Abdiyeva, 2012; Sharafizad, 2014). A number of these FWBNs exist in sub-Saharan Africa and often operate offline. For example, in Nigeria there is the Nigerian Association of Women Entrepreneurs (NAWE); Women in Business and Management (WIMBIZ); and International Federation of Business & Professional Women (BPW Nigeria). In South Africa, there is the Business Women's Association of South Africa (BWASA) and The Fine Women Network. In Kenya there is the Kenya Association of Women Business Owners (KAWBO); and the Federation of Women Entrepreneur Associations (FEWA). For women entrepreneurs in sub-Saharan Africa, these networks can help them overcome the cultural, social and economic constraints they face with running their businesses. Although research provides some insight on how women entrepreneurs network, and on the impact of their informal networks (Hanson and Blake, 2009), there is lack of understanding of their involvement in FWBNs. Furthermore, while several FWBNs exist in sub-Saharan Africa, little is known about their structure, contribution and performance. There is also a paucity of adequate assessment of the contribution FWBNs make and how they achieve this.

The strength of traditional business networks and entrepreneurs have been attributed to a number of factors including proximity to members, close interactions between members, and flexibility in doing business. However, globalisation is impacting on these factors, such that a business network that cannot leverage ICT today may not be sustained and may fail to contribute adequate value to the development of its members (Lengrand & Chatrie, 2000; Kyobe, Namirembe & Shongwe, 2015). Hence, it is highly recommended that these FWBNs tap into ICTs such as mobile technology, social media and the internet to achieve their goals of competitiveness, survival and contribution to women entrepreneurs' development (UNCTAD, 2014). While the importance of leveraging the use of ICTs in these networks cannot be over- emphasised, studies show that ICTs remain an untapped source for these networks, particularly those in sub-Saharan Africa, and they do not leverage them fully (ICRW, 2012; UNCTAD, 2014). Extant literature also fails to provide insight into the current use of ICTs in these networks and provides limited guidance on how FWBNs could leverage ICTs for their network operations and activities. By leveraging ICTs, these networks could gain efficiency and achieve reduction in time, geographical and cost constraints.

1.2 PROBLEM STATEMENT AND RESEARCH CONTEXT

As indicated in the background above, while there is increasing suggestion for women (especially those in sub-Saharan Africa and developing countries) to join formal business networks, and for the existing ones to be enhanced, there is limited understanding or insight into what the structures of these network are like. In addition, there is a dearth of research on the use of ICTs in these networks and how they can better leverage them. Consequently, there is a scarcity of integrated frameworks that can be used to address this limited undertanding of FWBNs and their use of ICTs.

Furthermore, while the importance of technology in enhancing and facilitating the activities of formal women business networks has been emphasised, these networks do not seem to leverage ICTs fully. In addition, several searches on major information systems databases – such as EBSCO Host, ACM Portal, Science Direct, and S-Sabinet – with search terms such as 'Women business networks', 'Women business associations' (and with the inclusion of 'ICT', 'technology' and 'Africa' or 'sub-Saharan Africa' in the phrases) returned very few results on studies relating to the topic under investigation. This shows that there is limited knowledge on FWBNs and the way they use ICTs to support their activities and operation. Consequently, there is limited theoretical and practical guidance on how FWBNs may optimise the use of ICT to enhance or support their contribution to the social and economic development of women entrepreneurs in developing countries. This study sought to fill these aforementioned theoretical and practical in literature gaps by providing a whole integrative framework that assesses eFWBNs and provides insight to their use of ICTs.

To explore the current study, two countries were selected within sub-Saharan Africa – Kenya and South Africa. The selection of more than one country served firstly as a response to the general call for cross-national and -cultural studies when studying entrepreneurship, in order to gain broader insight and understanding (Pearson & Chatterjee, 2001; Marino et. al, 2002). Considering that women are not a homogeneous group, their varying races and cultures and socio-economic backgrounds would shed light on their networking activity and approach, as well as on their business needs and goals (Ahl, 2006; Hughes et al., 2012). Secondly, these particular countries were selected due to their high record of women entrepreneurs (GEM, 2013; IPC, 2015). They also have high economic standings (World Bank, 2015) and there is a

high concentration of women networks in these countries. These countries are also both known for the patriarchy and inequality issues women face, which often poses limitations on the growth of women entrepreneurs (Bonner & Spooner, 2011).

The following section presents the research questions and research objectives for this study.

1.3 RESEARCH QUESTIONS

In light of the background and problem statements discussed above, the following research questions were raised and explored in this study:
Primary Question: What is the nature of an ICT-supported FWBN (eFWBN) in Kenya and South Africa respectively, and what is their contribution to the development of women entrepreneurs?
To answer the primary question, the following sub-questions were asked:

1. What type of Actors are within eFWBNs?
2. What type of Relationships are formed by women entrepreneurs in eFWBNs?
3. How is Flow of resources within eFWBNs?
4. How is Governance executed within eFWBNs?
5. What type of External Support do eFWBNs get?
6. How are ICTs leveraged in eFWBNs?
7. What type of Contributions and benefits are derived from eFWBNs?

1.4 RESEARCH OBJECTIVES

The major objective of this research was to unpack the nature of ICT-supported FWBNs (eFWBNs) in sub-Saharan Africa, their use of ICTs and their contribution to the development of women entrepreneurs. This involved:

1. A multidisciplinary review of literature that would help identify key constructs and conditions that would guide the inquiry and understanding of the phenomenon;

2. The development of an integrative framework that combined different theories that would explain and provide understanding of the various aspects of an eFWBN;
3. The development of a conceptual model that would model the structure of eFWBNs and expected outcomes (contribution and benefits) and would also take into account the identified constructs, conditions and gaps in literature;
4. Collection of data and test of the developed model using selected analytical methods;
5. Report on the findings derived from the data analysis.

1.5 PHILOSOPHICAL UNDERPINNINGS OF THE STUDY

The objective of this study was to examine the nature of eFWBNs and their contribution to the development of women entrepreneurs. This involved a review of literature to identify different theories that explained the various elements that should exist in FWBNs. The review resulted in the development of an integrative framework that guided the development of the conceptual model. Configurational theory served as the lens to guide the assessment and test of the model. Due to the exploratory nature of this study and the need for rich and in-depth understanding of the nature of eFWBNs within their contexts, this study adopted the philosophical stance of Realism and adopted a case study mixed methods approach. The case study method guided the data collection, analysis and interpretative stages of the research. Data was collected using multiple methods from three networks. The key participants for the study were the leaders and members of the networks. To test the research model and propositions, cluster analysis was carried out on the data.

Details of the philosophical underpinning and the research methods are presented in the research methodology chapter (Chapter 4).

1.6 RESEARCH CONTRIBUTION

This study contributes to the body of knowledge by unpacking the myth surrounding the ignorance about the nature of eFWBNs and their contribution to the development of women entrepreneurs. The study provides guidance on how a FWBN can leverage technology to enhance their activities and functionings. Furthermore, this study has made theoretical, methodological and practical contributions to the IS discipline, and research around women entrepreneurship and business networks, in the following ways:

First, this study makes a theoretical contribution by adopting and integrating various theories to advance understanding about eFWBN and their use of ICTs in developing countries and sub-Saharan contexts. This was achieved by adapting variables posited by social network theory (SNT) and other theories such as economic theories, governance theories, network theories, entrepreneurship theories and theories on ICT. This process led to the development of an integrated framework that helped to create the conceptual model. The variables selected and examined for the conceptual model related to actors, relationships, flow, governance, external support and ICTs. The researcher then argued that the interaction and interplays between these elements would result in a configuration (non-linear relationships) as opposed to linear relationships. Therefore, due to the existence of non-linear relationships and interplays amongst the elements identified, the conceptual model was developed from a configurational theory perspective. It should be noted here that the purpose of the configurational theory was mainly to measure and test the non-linear relationships (interplays) in the conceptual model that was derived based on the integrative framework. The configurational is also well suited to measure non-linear, bi-directional relationships that are often difficult to measure or understand. Configurational theorists define configurations as patterns of organisational elements that have attained an adequate level of coherence or unity with one another. Configurational theory posits that when elements attain adequate coherence, good outcomes are achieved; and that to understand the importance of each element in the configuration, they should be examined as whole, not in parts or isolation. The findings confirmed that isolating each element to understand eFWBNs would provide limited understanding of the interplay and relationships that makes one element complement the other. For instance, the findings showed that the knowledge and attitude of the leaders towards ICTs impacted on the use of ICTs. Also, the agency of the actors and their positions within the network impacted on the flow of resources and the nature of relationships within

the network. Another important theoretical contribution of this study is to the body of knowledge on the use of ICTs within FWBNs, an area that is lacking in research. The findings revealed how ICT tools were adopted to run the networks electronically, eliminating the need for a physical office, thereby resulting in reduced cost and geographical constraints. Overall, the theoretical model developed for this study contributes to the IS community and network and entrepreneurial research, particularly on the concept of FWBNs, by identifying factors that can influence eFWBNs and their outcomes. The model also provides a more holistic way of investigating FWBNs and their use of ICT in comparison to other network theories.

The major methodological contribution of this study lies in the advancement of knowledge on the use of cluster analysis to study network structures and their resulting outcomes by sifting out patterns of the combinations of the different elements within an eFWBN and grouping the different cases into distinct groups. This study also establishes the usefulness and strength of mixed methods to enrich understanding of a phenomenon – in this case, eFWBNs. This is because, with mixed methods, the weakness of one method is balanced by the strength of the other method. In addition, different accounts and sources of data provided richer insights into the various aspects of eFWBNs and as such, the triangulation and corroboration of findings was possible. Lastly, this study contributes to knowledge on how qualitative data can be converted to quantitative data for statistical analysis using the quantitisation technique. Quantitisation involves assigning numerical values to non-numerical data. This conversion makes it possible to run inferential statistical analysis with qualitative data.

Lastly, on a practical note, this study makes a contribution to practitioners, women organisations, and the government by illuminating areas of FWBNs that impact on the development of women entrepreneurs. For instance, by highlighting how the demographic attributes of women influence their perceptions and attitudes within a FWBN context, initiatives and programmes can be better tailored to meet the needs and goals of women entrepreneurs. Women entrepreneurs are also made aware of the importance of their individual efforts and agency in establishing relationships, and that actively participating in network activities ensures that they get resources within the network that can be translated to actual use and benefits for their businesses. In addition, government can enact policies that protect the interests of members of eFWBNs and policies that aid the operations and sustainability of eFWBns, for instance through funding. Furthermore, the evidence on the use

of ICTs by women entrepreneurs both at the network-level and individual level shows that practitioners within the ICT space can proffer specific and improved solutions such as online networking platforms and applications to assist with networking activities at both levels.

1.7 STRUCTURE OF THE THESIS

This thesis comprises seven chapters (see Figure 1.1 for an overview).

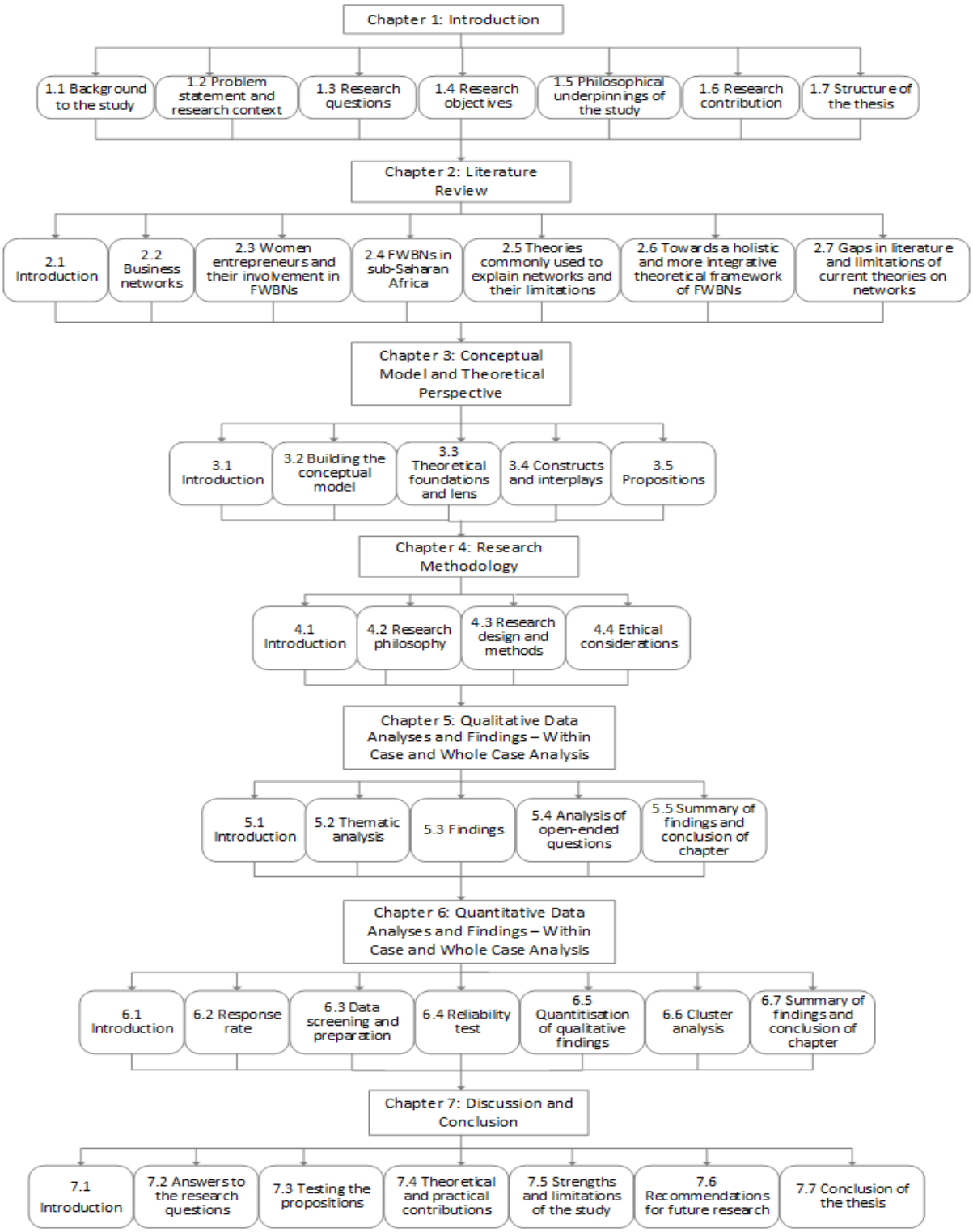

Figure 1.1: Thesis Overview

Chapter 1 presents the background and introduction to the study as well as the research questions and objectives.

Chapter 2 provides the literature review around eFWBNs, establishes the need for a theoretical model that goes beyond examining nodal elements in networks and discusses the theories integrated to develop the conceptual model for the study.

Chapter 3 highlights the guidelines followed to build the research model and discusses the theories and theoretical perspective that guides this study and helps to answer the research questions.

Chapter 4 describes the research strategy and approaches adopted to guide the inquiry in this study and outlines the data collection and techniques of analysis used.

Chapter 5 presents the qualitative analysis and findings of the study and buttresses the use of thematic analysis to derive the themes.

Chapter 6 discusses the quantitative analysis and findings of the study and illustrates the conversion of qualitative data to quantitative data using quantitisation technique

Chapter 7 concludes the study and highlights recommendations for future research.

CHAPTER 2:

LITERATURE REVIEW

"If you believe everything you read, better not read." – Japanese proverb

2.1 INTRODUCTION

The previous chapter introduced the research and outlined the background to the study, the research purpose and the research contributions. This chapter presents a review of literature around networks, women entrepreneurs and related theories (see figure 2.1). The review and discussion on the various aspects relating to the study have been structured to guide the development of an integrated framework that can aid a better understanding of the nature of eFWBNs. The chapter is structured as follows. First, an overview of business networks is presented. Thereafter, women entrepreneurs and their involvement in FWBNs are discussed. Subsequently, the characteristics, strengths and limitations of FWBNs are presented. Next, network theories and approaches are discussed and the need for a theoretical approach that is specific to eFWBNS in their entirety is established. Then, an illustration of how network theories and theories of networks can be applied to understand eFWBNs is presented. Subsequently, the gaps identified in the literature are highlighted. Lastly, the integrated framework that guided the development of the conceptual model is presented.

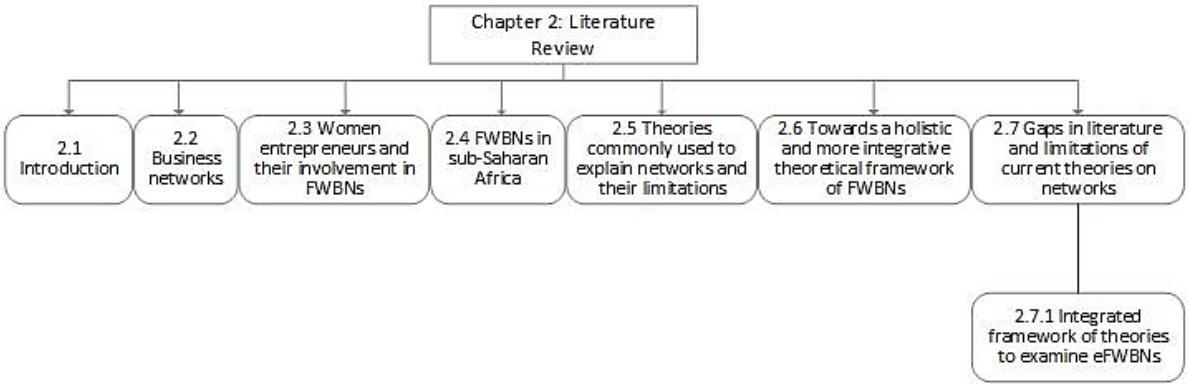

Figure:2.1: Overview of Chapter 2

2.2 BUSINESS NETWORKS

Networks **u**sually involve several ties (connections) from an actor (node) to a host of other actors in order to make direct or indirect contact as shown in Figure 2.2 (Scott, 1991; Wasserman & Faust, 1994; Wellman & Berkowitz, 1988; Haythornthwaite, 1996; O'Donnell, 2014). These networks provide an environment where necessary and beneficial resources can be accessed and obtained in instances where they would normally not be available or easily obtainable (Aldrich & Martinez, 2001; Redd, 2014). Networks could be formal (Kuada, 2009) or informal (Pollock et al., 2014). Formal business networks consist of non-kin relationships with consultants, business training providers and relationships formed with trade or business association members (O'Donnell, 2014). Informal business networks are those that involve mostly kin relationships, i.e. relationships with friends, family and close acquaintances. In women business networks, the actors are usually women entrepreneurs with businesses or professional women.

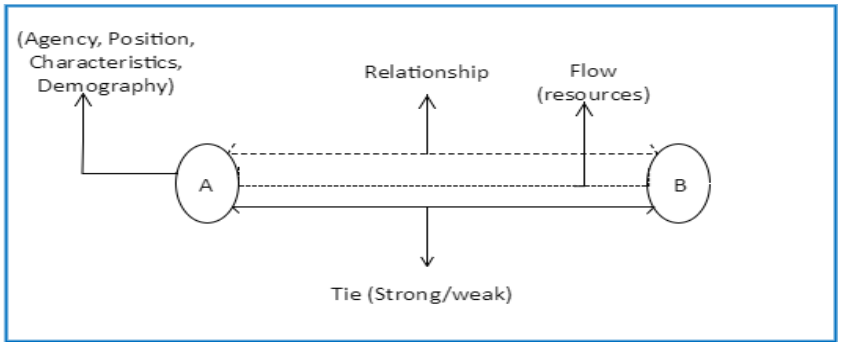

Figure 2.2: A typical network

Business networks can be either heterogeneous (Loscocco et al. 2009), or homogenous (Pinn et al., 2004). Heterogeneous networks have a diversity of gender and source of resources and information from actors that are usually non-kin. Homogenous networks on the other hand are those with the same gender as members or networks with actors of the same resource pool and information or knowledge level. This study focuses mainly on homogeneous networks of women engaged in business. Women mostly have informal networks and are mostly members of homogenous networks. This homogeneity limits their resource and information

pool and prevents them from partnering or networking with men who are presumed to be more established and have more contacts in the business sphere (Bledsoe & Oatsvall, 2010; Gonzalez-Alvarez & Rodriguez, 2011). Loscocco et al. (2009) caution that women networks shouldn't be solely homogeneous (that is involving just women or just a type of group or business sector). Other studies have suggested women in business networks should engage and relate with mens' business networks or take pointers from how mens' business networks operate (Dawson et al, 2011).However, women often feel that when networking with men, a common ground in experiences and challenges will not be shared. To wit, women feel their needs and experiences can be better understood by other women, so they tend rather to share it with them (Hanson & Blake, 2009; O'Brien, 2013; O'Donnell, 2014). Consequently, women are more inclined to join homogeneous networks.

2.3 WOMEN ENTREPRENEURS AND THEIR INVOLVEMENT IN BUSINESS NETWORKS

Women have a major role to play in the economic and social development of nations (Buskens and Webb, 2009). They do so as individuals (e.g. entrepreneurs) (De Vita et al., 2014; Rao, 2014) and also as groups or networks (Spring, 2009; UNCTAD, 2014). Several initiatives, programmes and projects have been birthed to assist women in becoming better at being entrepreneurs and in achieving better business growth and performance (Sospeter et al., 2014). Women often naturally possess certain qualities and competencies, such as good communication and interpersonal skills, and this reflects in their way of doing business (Mitchelmore & Rowley, 2013a). Women entrepreneurs are known to be highly skilled in creating and maintaining customer and employee relationships. They tend to be creative, proactive and relational. By being entrepreneurs and owners of businesses, women are able to reduce poverty, provide job opportunities, empower themselves and these translate to positive impacts on their families and the communities they belong to (Rao, 2014).

Becoming an entrepreneur is not an easy task for women due to socio-economic issues, cultural norms, and the need for family-work balance. Hence their entry into entrepreneurship is strongly driven by motivation (Winn, 2005). Motivation theories such as the need for achievement theory, highlight key individual, psychological and personality

traits as motivational factors to becoming entrepreneurs (see Figure 2.3). Need for achievement theory holds the view that humans are motivated by the (1) need for success, accomplishments, and achievements; (2) need for power (that is, being able to influence, impact on and control others); and (3) need for affiliation, which involves creating and maintaining close interpersonal relationship with others (McClelland, 1967). Studies show that women could be motivated to become entrepreneurs due to push factors such as the need for achievement and financial independence. Women are also motivated to become entrepreneurs due to family responsibilities, lack of employment or career advancement opportunities, and economic challenges (Morris et al., 2006; Aramand, 2012). Similar factors were found particularly for women in less-developed countries (Minniti, 2010; Kelley et al., 2010). The motivation factors for women becoming entrepreneurs also influence the way they approach business activities such as networking. For example, women join networks to access resources that can help them mitigate economic challenges and attain business success (Han & Benson, 2010; Dawson et al., 2011; Sharafizad, 2014).

Figure 2.3: McClelland's motivational needs

Apart from motivational factors, entrepreneurial orientation also influences how women go about their business ventures. According to Lumpkin & Dess (1996), entrepreneurial orientation manifests in five dimensions. These are innovativeness (the ability to come up with new ideas and encourage the implementation of these ideas); proactiveness (the ability to seek new opportunities, take initiative and engage in emerging markets); competitive aggressiveness (with competitors within a market domain); autonomy (ability to act and make decisions alone with little direction or supervision); and risk-taking (the ability and

willingness to take risks). This orientation influences the start-up of entrepreneurs and can inform the eventual performance or growth of the business. Lim & Envick (2013) found that women are less likely than men to score high in these entrepreneurial orientations. Women often take on business ventures that have less risk involved (Watson, 2006) and while they value autonomy, their business ownership is less autonomous, due to their heavy reliance on spouses, friends and family for business support (Lim & Envick, 2013). However, in some cases women entrepreneurs have been found to be proactive and innovative, especially when they are pursuing business growth (Mitchelmore & Rowley, 2013b). Women's entrepreneurship orientation also reflects in their approach to networking. Women entrepreneurs who are proactive and desire autonomy seek out expansive and formal networks while women entrepreneurs with a low propensity for growth, risk and proactiveness often stick to informal networks (Dawson et al., 2011; Watson, 2011; Sharafizad, 2014). To encourage and develop women entrepreneurship, governments, NGOS and world organisations have contributed monetary investments, developed initiatives, created development programmes and even policies. Nonetheless, a large number of women entrepreneurs, especially those in sub-Saharan Africa, are still struggling in terms of social and economic development (Woldie and Adersua, 2004; Witbooi and Ukpere, 2011).

Research shows that, although women entrepreneurs manage to strive, they are sometimes limited by their cultural and social contexts, particularly those in developing countries (Jennings and brush, 2013). Cultural theory grounded in Max Weber's writings posits that the differences in the performance of groups can be explained by the differences in culture and values necessary for successful entrepreneurship (Smith-Hunter & Boyd, 2004). Even today, in certain parts of the world, especially in developing countries, women are still heavily influenced by patriarchy and inequality (Davis, 2012; De Vita et al., 2014)). Such cultural values and norms influence gender roles and stereotypes, which often reflect in the business choice and opportunities of women entrepreneurs (Mueller 2004; Shinnar et al 2012). For example, Morris et al. (2006) show that because of women's roles as mothers and wives, their business choices and opportunities are hugely dependent on their family responsibilities and family inclinations. Thus, they own businesses and become their own bosses to achieve and maintain a family-work balance and gain income. By being their own bosses they can manage time and geographical factors to suit their family needs and demands. Some researchers have argued that for some women entrepreneurs, the need for family-work balance also hinders their ability to utilize or join formal networks (Davis, 2012; Davis and Abdiyeva, 2012).

Disadvantage theory also sheds light on the limitations posed by social conditions. The theory posits that those who face economic disadvantages will often choose small business ownership as an alternative route to the labour market, with the view that self-employment is better than no employment or source of income (Smith-Hunter and Boyd, 2004). The theory also holds the view that the decision to become self-employed could be inhibited by resource constraints. A combination of labour market exclusion and resource constraints will therefore lead to an individual setting up businesses in informal sectors (Light and Rosenstein, 1995; Boyd, 2000). Smith-Hunter and Boyd (2004) found this to be true for women entrepreneurs as they mostly operate businesses in the informal sectors, or are small to micro-scale enterprises. Such businesses include crafts and personal services like beauty parlours and hair salons. Other studies have also confirmed the representation and concentration of women in such businesses, particularly those in sub-Saharan Africa (Jack, 2010; Witbooi and Ukpere, 2011; Kehler, 2013). Women entrepreneurs, particularly those in sub-Saharan Africa, cluster in such businesses because of low literacy level, patriarchy issues, low level of income, lack of training, and the need for work-family balance. However, De Vita et al. (2014) suggest that there is an emergence of new-profiled women entrepreneurs who are not limited by family ties, are highly- and well-educated and more motivated. Nonetheless, even they are still constrained by socio-cultural contexts.

While factors such as cultural and social disadvantage can influence the business activities and decisions of women entrepreneurs, particularly those in sub-Saharan Africa (Jennings and Brush, 2013), their orientation, size of business, literacy level, skill and knowledge level, and goals for their business can also be influences. For women to maintain or have better business growth or performance and fit into the global market, they need to apply appropriate and working strategies (such as appropriate and strategic use of technology (ICTs)) (Matthew, 2010; Vossenberg, 2013). They also need to be able to gain access to useful and beneficial resources. One way in which they can achieve this is by joining formal business networks (Redd, 2014; UNCTAD 2014).

The following section discusses FWBNs, their characteristics, strengths and limitations.

2.4 FWBNs - CHARACTERISTICS, STRENGTHS AND LIMITATIONS

A formal group or organisation is one where the members communicate with each other and coordinate their operations and activities towards achieving a common goal (Banard, 1938; Provan and Kenis, 2008). Etzoni (1975) developed a typology that illustrates three categories of formal organisations, based on how members are inducted into the organisations and kept on as members in the organisations. The three forms of formal organisations include the normative, coercive and utilitarian organisations and the differences amongst them are highlighted in Table 2.1 below.

Table 2.1: Forms of formal organisations

Adapted from: Etzoni (1975) and Long-Crowell (2017)

TYPE OF ORGANISATION	FORM OF CONTROL	TYPE OF CULTURE	GOAL OF MEMBERS
NORMATIVE	• Shared participation and moral commitment • Voluntary	• Mutual commitment to achieving the goal of the organisation.	• To promote an important social agenda; • To fulfil positive and moral obligations.
COERCIVE	• Forceful	• Very strict - order and obedience are expected of members; • Members conform with no sense of individuality; • Members cannot leave without permission.	• N/A – members' goals do not matter.
UTILITARIAN	• Through bartering	• Purpose and productivity; • Compensation to members for participation.	• To gain some form of benefits.

Formal women groupings or associations will often lean more towards the utilitarian or normative form of organisation (Burke and Vinnicombe, 2005; Singh et al., 2006; Spring, 2009). However, a distinction is made here between formal women business networks and business or trade associations. Trade associations often provide avenues for business people to network

and pursue shared interests (Perry, 2008). As noted by Perry (2008, p. 54), "all that may distinguish a trade association from other business networks is the coordination by a third party that is independent of any association member and that has some degree of power to aid, abet, guide and cajole participating businesses". Although trade associations may be regarded as formal networks, the focus of this study is on FWBNs that are formally registered and can be categorised as organisations. FWBNs have more direct contacts with professional bodies, institutions and organisations and are not as influenced by third parties as is the case with trade associations (Perry, 2008). Trade associations particularly in Africa are usually formed by market women, street vendors, rural business owners and micro enterprises owners that fall under informal sectors (Bonner & Spooner, 2011). These trade associations are mostly formed to ward off bureaucratic issues either by external authorities or other trade unions (Johannisson, 1987). The leadership is usually informal and could be led by politicians for political control and sometimes by criminals. Unlike formal business networks, they usually do not have strict rules of membership and sometimes do not require membership fees (Bonner & Spooner, 2011). According to Bonner & Spooner (2011) these associations are limited in their ability to provide beneficial and useful resources for business growth and survival, due to their informal nature. Spring (2009) explains that new generation entrepreneurs as well as women with small businesses or in formal sectors are usually not members of these type of associations. They often join more professional and formal networks that are mainly based in capital cities (Spring, 2009).

Women entrepreneurs are inducted into womens' groups and organisations in different ways (Orser, Elliott, and Leck (2013). For the normative and collective forms of womens' organisations, women are inducted and kept on based on the shared understanding and notion that women should not build structures that oppress women like other forms of hierarchical structures often do (Orser et al., 2013). These types of organisations also serve to promote mutual growth and respect, as well as women's personal and social values (Orser et al., 2013). Koen (1984) found women's personal values included being creative, gaining personal knowledge and power, being authentic and identifying as a woman. The social values include (1) a sense of collectivism as opposed to bureaucracy; (2) engaging in social actions and possessing political power; (3) achieving economic independence; (4) creating spaces that accept difference and pursue mutuality where relationships are concerned; (5) being free from oppressive norms and structures and; (6) empowerment (Koen, 1984). As noted by Martine (1990), women groupings, organisations and enterprises that are directed at

entrepreneurial endeavours or intentions will often demonstrate women's personal and social values as a way of overcoming inequality and social or cultural limitations. For the utilitarian form of women organisations, women entrepreneurs are inducted through invitation and advertisements that promote the potential benefits women can gain from participating in the networks (Spring, 2009). This form of organisation often involves paid membership and the benefits are often aimed at helping women do better in their businesses. Although not explicitly stated, this form of induction was adopted by the women business networks in Singh et al.'s (2006) study. The aforesaid views provide some insight into how women can be inducted and kept in FWBNs.

Extant literature on FWBNs suggests that FWBNs have characteristics of professional networks described by Huang, Nandialath, Alsayaghi and Karadeniz (2013). FWBNs can be created from womens' groups or womens' associations and are sometimes funded by private or public organisations in order to mitigate the challenges women entrepreneurs face (Bierema, 2005; Spring, 2009; Davis, 2012; UNCTAD, 2014). They involve several ties between women entrepreneurs and could provide professional advisors, loan guarantee schemes and serve as formal sources of support (Delanoe, 2013; Huang et al., 2013). Most of the conceptions of FWBNs have viewed them as only existing offline. However, there are several FWBNs that now have an online presence. Globalisation poses a threat to the membership in these networks due to the advent of ICT such as social media and search engines (Schematic Industries, 2014). This is because people can now have information at their fingertips without paying membership fees. Nonetheless, the benefits of these formal business networks go beyond just providing information (Spring, 2009). Hence, to keep abreast of globalisation and technology advancements, it is important that FWBNs use ICTs and leverage them to support their activities and operations as well as cater to the needs of their members. An understanding of the nature and structure of ICT-supported FWBNs (eFWBNs) can shed light on how they can align their goals and operations to the era of globalisation.

Asides using standard network measuring metrics to observe the structure of networks in terms of ties and resource exchange (Haythornthwaite, 1996), psychology theorists argue that networks possess dynamic attributes and complexities that require empirical attention in research (Johannisson et al., 2002; Westaby, Pfaff and Redding, 2014). Due to the dynamic nature of networks, there is also interplay amongst the core elements (actors, relationships and resources) that inform the structure and require in-depth understanding and assessment.

As noted by Johannisson et al. (2002), the dynamics and complexities in networks also arise due to the varying entrepreneurial settings, co-operation agreements, and contexts that network structures consist in. These differences and dynamics further present the need to account for varying attributes, contexts and cultures when studying networks (Borgatti and Halgin, 2011). Using the dynamic network theory, Westaby et al., (2014) propose that networks will have actors with different social network roles and these roles will influence how goals are pursued or achieved in a network. They further argue that on the one hand networks could provide positive outcomes such as good performance, information and emotional support; on the other hand they could create negative outcomes such as conflicts or unhealthy competitive relationships (Westaby et al., 2014). On a similar note, Bierema (2005) found that some networks can promote patriarchal notions where women are concerned and serve as a barrier to the impact the network has on its actors. In another instance, although not particular to sub-Saharan Africa, Casserly (2012) observed that FWBNs do not always create an avenue for women's business goals to be stated and properly catered to. While FWBNs could sometimes have these limitations, they remain highly recommended to women entrepreneurs as they can provide women entrepreneurs with benefits such as access to resources and opportunities that may not be readily available to them (Davis, 2012). They also provide platforms that give shared experience support to women, improve their knowledge and skills for their business or professions, engage them in social activities and advocate for them (Spring, 2009).

Literature is extensive about WBNs and formal networks in general in developed countries, but there is scant research on WBNs or FBWNs in sub-Saharan Africa. Studies that have been conducted in some sub-Saharan African countries, like Nigeria, Kenya and South Africa, have focused on the networking behaviour and perceptions of women entrepreneurs or their involvement in informal networks and formal networks (Oke, 2013; Bogaards, Klerk & Mostert, 2011; Omwenga et al., 2013). The high number of studies on women entrepreneurs in these countries is no surprise, as these countries have a high number of women entrepreneurs (GEM, 2013; IPC, 2015). They also have high economic standings (World Bank, 2015) and there is a high concentration of women networks in these countries. These countries are also known for the patriarchy and inequality issues women face especially with their businesses (Bonner & Spooner, 2011). The common theme around studies on women entrepreneurs in sub-Saharan Africa has been the recommendation for women entrepreneurs to join FWBNs. Research shows that in some developing countries, there is a scarcity of

business networks and associations and there is also lack of freedom to partake in such networks, due to patriarchy (Davis, 2012). However, a host of women business networks and associations exist in sub-Saharan African countries such as Nigeria, South Africa, Ghana, Uganda and Kenya. Examples of FWBNs in Nigeria are: Nigerian Association of Women Entrepreneurs (NAWE); Women in Business and Management (WIMBIZ); and International Federation of Business & Professional Women (BPW Nigeria). In South Africa, there is the Business Women's Association of South Africa (BWASA) and The Fine Women Network. In Kenya there is Kenya Association of Women Business Owners (KAWBO) and Federation of Women Entrepreneur Associations (FEWA). Although many of such FWBNs exist, the involvement of women entrepreneurs in such (formal) networks is still questioned (Davis & Abdiyeva, 2012). More importantly, little is also known about how these FWBNs contribute to the development of women entrepreneurs or how they operate and function within the sub-Saharan context. Limited understanding about the nature of these networks could lead to misguided recommendations and a lack of attention and intervention that would help FWBNs effectively contribute to the business development and success of women entrepreneurs in sub-Saharan Africa. Therefore, this study serves as a step towards providing more understanding of FWBNs in the sub-Saharan context. To further explore eFWBNs, the researcher examines some of the theoretical works that have been used to study networks. These theories and approaches are discussed in the subsequent section.

2.5 THEORIES COMMONLY USED TO EXPLAIN NETWORKS AND THEIR LIMITATIONS

Most studies on networks in different contexts have assessed networks using the social network theory to examine the structure of a network as well as the resource flow (Borgatti & Halgin, 2011). Social network theory is mainly concerned with identifying and examining patterns of relationships and flow/exchange of resources between actors in a network through empirical observations (Scott, 1991; Wasserman & Faust, 1994; Wellman & Berkowitz, 1988). These empirical observations have mostly been presented in graphical forms or matrices. The regular patterns of relationships are what makes a social network, where the actors are represented as *nodes* and the relationships between the actors are represented by *connectors* between the nodes (Haythornthwaite, 1996). The social structure of the network is determined by the ability of an actor or set of actors to facilitate and control the flow of resources. The centrality or peripheral position of actors to the flow of resources and the loose

or close connections between the actor(s) to other actors also influence the structure (Haythornthwaite, 1996). The core principle of social network theory and analysis is to identify and examine the relationships and ties between pairs of actors in a network. When there is a connection between two or more people, a relationship is formed (Haythornthwaite, 1996). Actors are linked by a relationship when they maintain the relationship. A tie is formed from all the relationships maintained by pairs of actors. Hence, pairs of actors can have more than one relationship. Social network theory helps to assess the relationships that form and maintain the ties between pairs of actors (Haythornthwaite, 1996). Social network theory is often conceptualised and operationalised in research using two approaches; they are the network structural approach and the network resource approach (Kim & Sherraden, 2014). These approaches are discussed in turn below and a summary of each approach is presented in Table 2.2.

Table 2.2 : Summary of approaches used to conceptualise and operationalise SNT

	Structural Approach (Kim & Sherraden, 2014)	**Resource Approach** (Kim & Sherraden, 2014)
FOCUS	Structure and dynamics that influence the relationships formed and maintained by actors	Based on the premise that the benefits derived by an actor are as a result of the resources within the network
MAIN CONCEPTS	Ties formed by an actor or actors in a network (strong/weak)	Resources embedded in ties
LIMITATIONS	Does not account for resources or the nature of flow of these resources	Emphasise only the need to examine resources and use this to inform the benefits derived by an actor without understanding the structure

2.5.1 Network structural approach

The structural approach focuses on examining the structure and dynamics that influence the relationships formed and maintained by actors in a network as well as the economic gains they derive in these networks (Lin, 1999; Klyver & Terjesen, 2007). Indicators such as size, density, range, diversity and composition are used to measure the structure of a network.

However, the major concept in this approach is identifying the extent to which an actor is connected to other actors, in other words, the ties formed by an actor or actors in a network. These ties can either be strong or weak. The strength of a tie is determined by the frequency of interaction, the level of intimacy and the emotional bonds that link the actors (Granovetter, 2005). Usually, strong ties involve more interaction, and the actors share intimacy, emotional bonds and mutual services. On the other hand, weak ties are less frequent and involve one type of relationship (Granovetter, 2005).

Authors have argued that the ties formed influence the kinds of benefits derived from a network. According to Granovetter (1973), weak ties are more beneficial than strong ties in a network. He argues that a network of strong ties results in redundancy, as the actors will possess and share similar information and resources. He gave an example whereby the weak ties provided access to a wider range of job information and entrepreneurial opportunities/activities. He explained that since weak ties are formed with actors outside the close circle, an individual is able to reach a wider, more diverse pool of information and resources. However, strong ties prove useful in cases where emotional support and urgent trusted aid are needed. According to Redd (2014), strong ties provide nascent entrepreneurs at the business start-up with quick and trusted information or resources. She states that women entrepreneurs often rely on their family and friends for information and resources to start their businesses, because their family responsibilities and social standing often prevent them from making contact with established business individuals outside their social circle.

Most studies that have observed gender differences in networks have focused on diversity and strength (Kim & Sherraden, 2014). Although there are conflicting views, the majority of these studies argue that women are likely to have more strong ties than weak ties in comparison to their male counterparts. This explains why they often do not participate in formal networks, as they already have informal networks with kin, friends and family (Greve & Salaff, 2003; Redd, 2014). The concentration of women within informal networks and their heavy reliance on strong ties can limit their access to a wide range of resources and benefits that can aid their businesses. Loscocco et al., (2009) argue that due to gender inequality seen in segregated families, and social roles, women tend to be more inclined to have networks that are focused on family and friends. Nonetheless, these strong ties are of great influence to women at the start-up phase of their business; but for growth, survival and better performance, they need to balance their strong ties with weak ties (Greve & Salaff, 2003).

Although the structural approach is well established and offers useful ways of understanding what makes a network, how interactions take place between different elements of a network, and the resulting outcomes of these interactions, it is limited in that it does not account for resources or the nature of flow of these resources. It also does not shed enough light on the influences of structures on the flow of resources or the influence of other structural elements – apart from the strength of ties – on the flow of resources.

2.5.2 Network resource approach

The network resource approach – as opposed to the network structure approach – is based on the premise that the benefits derived by an actor are a result of the resources within the network and not just the structures. Hence, it is not the strength of a tie that conveys needed benefits; rather, it is the resources embedded in the weak ties (Lin, 2000). In other words, in order to assess the kind of benefits derived from a network, one has to observe the kinds of resources exchanged between actors, which then informs the types of resources embedded within a network. Kim & Sherraden (2014) suggest that the resource approach gives insight into how an actor's network can be associated with inequality and can help identify the influence of gender inequality on resource distribution within networks.

This resource approach has been used to shed light on the inequality women face (Loscocco et al., 2009; Kim & Sherraden, 2014). This is because women business networks are presumed to not have sufficiently good resources within them, due to their informal nature, or due to the social norms impinging on the status of women in general, even for those within formal business networks. It is believed that the social and economic issues that impede women entrepreneurs who make up actors within networks can also influence their positions within a network, or what they offer in terms of resources. In addition, while women's business networks are similar to those of men in terms of size, activities and density, women's networks do not always contain or offer a high level of economic returns or business gains. As observed by Hanson (2000) men mostly belong to more diverse networks and these networks are affiliated with core institutions, while women tend to have smaller networks that focus on domestic and community affairs, rather than business-related resources. Recent studies, such as that of Dawson et al. (2011), have confirmed this observation.

Although the network resource approach was presented by Lin (2002) as an alternative to the network structure approach in assessing networks and the outcomes, Kim & Sherraden (2014) argue that a combination of both frameworks can help gain better insight in studying networks. This is because it is not enough to just examine resources without having knowledge about the structure from which these resources stem or are exchanged in. A combination of both frameworks can help to form a clear picture of the structure of a network (in terms of its size, density, ties and activity) and also explain how the structure of a network influences the type of resources embedded within it, as well as how the resources flow within the network, and which actors benefit from this flow. This argument also follows the premise that the social positions of actors determines the resources embedded in a network and not just their individual choices (Bourdieu, 1986; Lin, 2005). Therefore, the position of an actor within a network, and not just the strength of ties they have formed or the ties they maintain, will determine the kind of resources that flow to them or from them in the network. An understanding of the position of an actor, the ties formed and kinds of resources or flow of resources and influencing elements can best be understood by a combination of theoretical frameworks.

2.6 TOWARDS A HOLISTIC AND MORE INTEGRATIVE THEORETICAL FRAMEWORK OF FWBNs

As discussed above, most research on networks or women networks have adopted social network theory to examine actors, the relationships, connections and exchanges between them. Social network theory (SNT) emphasises how network structures in terms of size, density, and centrality determine how actors are connected and positioned within networks (Scott, 1991; Wasserman and Faust, 1994; Wellman and Berkowitz, 1988; Haythornthwaighte, 1996, Borgatti and Halgin, 2011). For instance, the positions of actors and their connections provide insight into the nature of relationships by showing if actors are central to other actors and if the connections between an actor and others are strong or weak (Granovetter, 2005; Borgatti and Halgin, 2011). In addition to understanding network structures, SNT provides understanding of the nature of resources exchanged between actors when a relationship is formed (Lin 2000; 2008). That is, by identifying the actors and types of relationships between actors, one can infer the type of resources embedded within a network (Loscocco et al., 2009;

Kim and Sherraden, 2014). While SNT has provided very useful insights on the nature of networks, in terms of structure and resources, this view has provided limited understanding of non-human variables, such as ICTs, and how these variables impact on networks and their outcomes.

Mejias (2006), argues that social network theories often fail to account for the differences between human and non-human or between nodal and non-nodal elements. That is, there is usually so much emphasis on the actors and the relationships or connections between them that other acting elements are often neglected or get very little attention (Mejias, 2006). Social network analysis offers flat graphical representations (see Figure 2.4) and reduces the whole interaction within networks to just nodes, connections and exchanges. This view limits our understanding of other social realities that could be present and influence the interactions within a network and the overall outcome (Mejias, 2006). Therefore, while network theories and approaches can be used to understand the structure of a network and flow of resources, they fall short of going beyond the core network elements to also identify influencing attributes and the overall outcome or impact of networks. In this study, the researcher argues not just for a graphical or quantified representation of FWBNs, but for a model that allows for deeper assessment; the consideration and inclusion of non-nodal or non-human elements; and factors that could help deepen our insight and understanding of the entire phenomenon. Therefore, to account for both nodal and non-nodal elements as posited in SNT, this study considers other elements – such as governance (Provan and Kenis, 2008; Turrini et al., 2010), external support (Human and Provan, 2000; Lin, 2008), and ICTs (Ajjan et al., 2014; Masika, 2014; UNCTAD, 2014) that have been explained by other theories and researchers in the context of networks, women entrepreneurship and use of ICTs. The different theories are integrated to provide a more holistic way of advancing knowledge of eFWBNs. Further, this study argues that a combination of the aforesaid elements will be present in eFWBNs and together these elements result in contribution and benefit outcomes for women entrepreneurs. Each of these elements, the related theories and how they relate to eFWBNs, are discussed in subsequent sections.

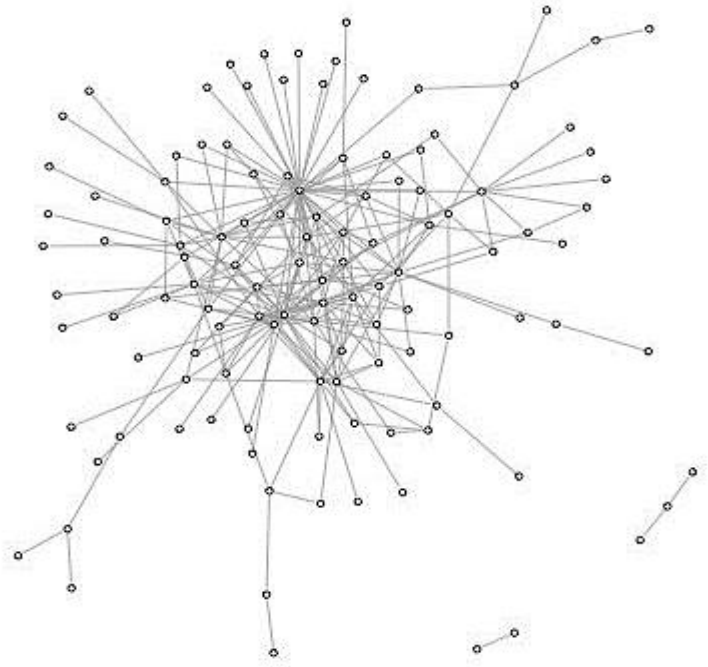

Figure 2.4: An example of a graphical representation of a social network.

Source: Dora G. (2017)

2.6.1 Actors in FWBNs

Borgatti and Halgin (2011) argue that actors within a network will possess three key attributes namely, positions within the network, certain demographic characteristics, and networking approaches and activities. These different attributes are discussed below.

2.6.1.1 Positions of actors

Actors (nodes) within a FWBN are expected to be positioned in different ways (see Figure 2.5). That is, an actor can be central to (Node G and C in Figure 2.5), excluded from (Node B and K in Figure 2.5), or included (Node A, D, E, F, H, I, J in Figure 2.5) in the network activities and coordination. An actor is central when (1) they are prominent or have links and connections to prominent actors in a network, or (2) are linked to many actors within a network (Balkundi and Kilduff, 2006; Nieves and Osorio, 2013). An actor that is central within a network will have access to resources, utilise and exploit these resources (Zaheer et al., 2005). In certain

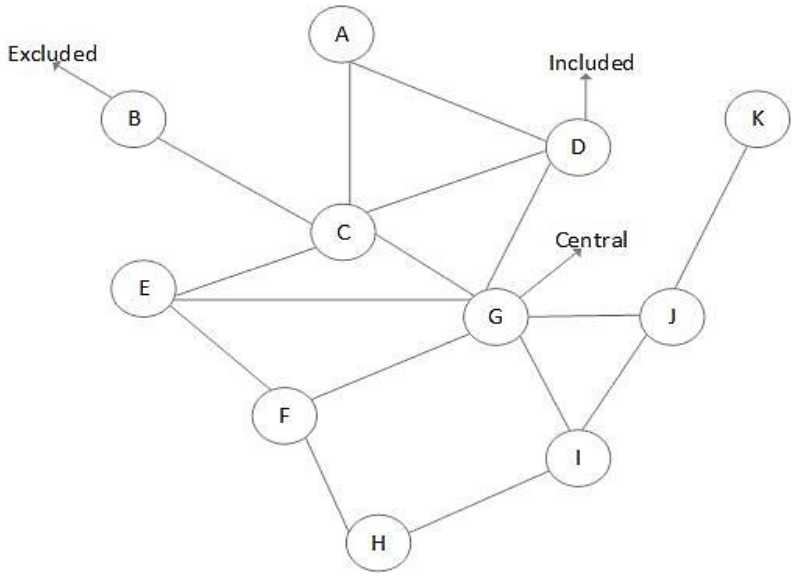

Figure 2.5: Varying positions of nodes (actors) in networks

instances, actors who are central in a network will control activities and bring or link people together – this is often referred to as brokering (Nieves and Osorio, 2013). Just as an actor can be central, another could hold an inclusive position, whereby they may not be prominent and have as many links as the central actor, but will have easy access to resources due to their ties with prominent/central actors and involvement in network activities (Balkundi and Kilduff, 2006). Excluded actors are actors who do not have any or as many direct links or connections to other actors within the network and as such, do not benefit from the pool or flow of resources within the network. Due to the ties and relationships formed by other actors, excluded actors will often be 'left out' from activities or resources flowing within the network (Borgatti et al., 2009).

Prior studies have mostly examined centrality in network research and barely accounted for other positions within a network (Hoang and Antonic, 2003; Nieves and Osorio, 2013). This line of focus could be attributed to the argument that centrality in a network influences an actor's role within a network, the type of resources she has access to and how quickly she can access these resources (Hoang and Antonic, 2003; Borgatti et al., 2009).

Another line of argument relates to positions and power. Network theory in particular posits that the position and power of an actor can determine what flows to the actor (in terms of resources and information) (Borgatti & Halgin, 2011). Further, an actor is perceived to have power based on her connection to other actors, or her influence on the flow of resources within a network (Borgatti & Halgin, 2011). Although literature is extensive about the role and influence of centrality in networks, not many studies have examined network positions in women networks or the influence of these on the actors and the flow of resources to them or within the network. Most studies have focused on the ability of a woman entrepreneur to access resources or position herself to gain resources (Ibarra, 1992; Hanson and Blake, 2009; Kim, 2014), but have not linked these to the categories of positions mentioned above. The significance of different positions of women within FWBNs can shed light on the nature of relationships, the agency of the actors and the flow of resources.

2.6.1.2 Demography of actors

As noted by Spring (2009), new generation entrepreneurs and women with small businesses or in formal sectors usually belong to formal networks. 'New generation' here refers to women entrepreneurs who are not just motivated by making money, but by the ability to be creative, make an impact and 'call the shots' (Lavine, 2014). Women possess different demographic qualities that often influence the way they approach networking (Ibarra, 1993). In order to understand the nature of FWBNs, there is a need to understand the types of actors that are in a typical FWBN. Demography refers to information collected about the characteristics of a group of people or population (Alston, 2016; Divisah, 2016). Demographic information, depending on the purpose for which it is collected, usually relates to age, gender, income, education and any other status or category that can be used to understand the targeted population (Alston, 2016; Divisah, 2016). In this study, age, number of years of networking, the age of the business, educational qualification, type of business and technological know-how are expected to count as important demographic qualities for the actors in eFWBNs.

Although studies on the influence of age on networking have been inconclusive, some researchers argue that the age of women entrepreneurs often influence their networking activities (Hughes, 2006; Sharafizad, 2014). Research shows that women entrepreneurs who network fall within the 30 to 45-year-old age group (Oke, 2013). Some researchers argue that

women are often members of informal networks or do not even network at all (Davis & Abdiyeva, 2012; Kim, 2014). Extant studies also opine that the more you network, the more and better you build relationships (Semrau et al., 2014). Consequently, having good relationships can help you stay connected to people and also influence your network position. These views suggest that the number of years of participation in networks influences an actor's networking approach.

Extant studies have also found that networking influences businesses at their early stage and women entrepreneurs usually seek help and advice at the start of their businesses (Greve and Salaff, 2003; Slotte-Kock and Coviello, 2010). Dawson (2011) also stated that women who have been in business for a while seek out networks and are more likely to be network-inclined because they want to grow more significantly. In his study, Watson (2011) found that increase in growth of business was linked to a decline in involvement in networks. This he found to be due to lack of time to engage in networking activities while growing the business. Thus, the age of a business can influence networking.

Regarding educational level, there are inconclusive observations in prior research about the link between educational level and networking activities or approach (Davis and Abdiyeva, 2012). Nonetheless, some researchers suggest that educational qualification of women entrepreneurs influence networking. Davis (2012) argues that formal education has empowered women when it comes to businesses and managerial responsibilities; however, a good level of education does not always translate into making good decisions or engaging in beneficial business activities.

Another demographic influence relates to the type of business women entrepreneurs own or manage or work in. Extant literature states that most women entrepreneurs, particularly those in sub-Saharan Africa, often own small businesses that mostly fall under the community and personal services sector (De Vita et al., 2014; Kim, 2014; Sharafizad, 2014). This is usually due to patriarchal norms, level of education, level of income and the need for work-life balance. De Vita et al. (2014) suggest that there is an emergence of new profiled women entrepreneurs who are not limited by family ties, are highly- and well-educated and more motivated. Nonetheless, they are still constrained by socio-cultural contexts.

2.6.1.3 Networking approach and activity of actors

The core of any network will be networking itself. Hence, there is need to unpack how women go about this in FWBNs. It is also paramount to understand what factors influences women's networking. In terms of the networking approach and activity of women entrepreneurs, there are different aspects to consider. These aspects include the type of networks women have and why; their business goals and the influence of those goals on networking; the agency of the women actors; the beliefs and perceptions of the women; and trust.

Regarding the type of networks women have, some researchers argue that women restrict their networks to one source or exclusively kin relationships (Davis and Abdiyeva, 2012; Kim, 2014). In other cases, women rely on their networks of fellow women, because they believe they will get better understanding and support from fellow women (Hanson & Blake, 2009; O'Brien, 2013; O'Donnell, 2014). Consequently, women will be more inclined to join homogeneous networks.

In terms of business goals, women have different goals for their businesses and these goals influence their business decisions and activities (Nichter and Goldmark, 2009; Mitchelmore and Rowley, 2013). While some are growth- and expansion-oriented, some are lifestyle-business-oriented (Nichter and Goldmark, 2009; Mitchelmore and Rowley, 2013). These goals will determine the way women network and the extent to which they network. For instance, Bogren et al. (2012) found that women entrepreneurs who had a strong desire and pursuit for growth joined and had expansive formal business networks. Sharafizad (2014), likewise, found that women who had no intention to grow their businesses beyond their current point were less proactive about networking, while women who desired growth or had financial reasons were more proactive about networking.

Borgatti and Halgin (2011) argue that an actor's agency within a network determines the type of resources they acquire and when they acquire them. For women entrepreneurs, extant studies suggest that women with small businesses often seek advice and help when they are starting-up (Sharafizad, 2014). Also, women who desire growth or increased sales in their business will exercise agency in establishing contacts and relationships in their networks (Watson, 2011).

Literature suggests that the beliefs about, perceptions of and reasons for networking can restrict the type of networks women entrepreneurs have and their approach to networking. For instance, women will cluster with other women they believe to be in the same social or cultural demography as them (Ibarra, 1993). Gordon (2014) corroborates this view by stating that women's networking activities are influenced by views about their race, career advancement and status. This is because in certain cases, some women feel like a minority in comparison to others, based on those qualities. Jennings and Brush (2013) argue that the social and cultural contexts of women can play a role in how they perceive themselves or their abilities. This is because the stereotypes and gender roles or norms they face, particularly those in sub-Saharan Africa, can make them feel that they do not have what it takes to grow their business or attain success. Hence, it is evident that culture and perceptions influence women's networking approach and activity (Hughes et al., 2012).

In terms of trust, Farr-Wharton & Brunetto (2007) found that trust plays a great role in determining the networking activity of women entrepreneurs. Without established trust, their interaction and exchange of resources tends to be limited and in turn affects the overall structure in the network. Hoang & Antoncic (2003) echo the importance of trust by stating its critical role in enhancing innovation and encouraging collaboration. The more trust there is between actors, the better the relationships, which opens up possibilities for innovation and exchange of resources. Likewise, in instances where there is no trust amongst actors, there can be a strain in the flow and exchange of resources amongst actors (Farr-Wharton & Brunetto, 2007).

2.6.2 Relationships in FWBNs

Relationships are the core of networks and they manifest in different forms (Haythornthwaite, 1996). Relationships are born out of interactions amongst actors and usually involve exchange of resources. Relationships could be either strictly business, or friendship, or have elements of both. In FWBNs, one would expect more business relationships, because of the general nature of formal networks. However, with women being the major actors in FWBNs, it may not be strictly business, but may have elements of both business and friendship relationships or even exclusively friendship relationships. Other elements expected of relationships in networks are: homophily/heterophily (Lozares et al., 2014); dyadic or groups (Haythornthwaite, 1996);

trust (Farr-Wharton and Brunetto, 2007); stability/instability (Vlăduțescu, 2014); exchange of resources (Semrau et al., 2014); connections and ties through established resources.

Researchers argue that FWBNs are sources of weak ties for women entrepreneurs and for this reason, FWBNs are highly recommended to them for their businesses (Bierema, 2005; Kim, 2014; Davis, 2012). Weak ties involving connections with non-kin persons usually provide more beneficial resources to entrepreneurs for their business.

Prior studies suggest that women are homophilous by nature and this reflects in their networks (Hanson and Blake, 2009; Kim, 2014). Lozares et al. (2014) argue that structural homophily is expected at network level due to shared interests and membership; however, specific homophily – relating to other similarities in demography, goals and/or social qualities – is often present in relationships.

As highlighted in the previous section, literature shows that trust is an important aspect in networking and it is an important concept to women in particular. Hanson and Blake (2009) argue that women can build trust in a relationship through shared social characteristics or interests and also through membership in professional networks. A study by Renzulli et al. (2000) based on a comparison between men and women and their level of trust found that women build trust in their network relationships through direct contact and frequent interactions. Women are more inclined to open up and seek relationships with other women, due to the perception that they will gain more support from fellow women because of shared understanding (Dawson et al., 2011). Although women entrepreneurs seek emotional and psychological support from other women and a space where they do not feel isolated business-wise (Enterprising women, 2009; Dawson et al., 2011), Durbin (2011) suggests that women entrepreneurs who seek out formal networks do so for business or financial reasons, such as increasing sales or getting a wider base of clients.

Extant studies argue that networks involve several people and transform or change over time. These elements make them dynamic in nature and as such the ties between the actors within a network are usually unstable (Shaw, 2006; Vlăduțescu, 2014). The instability can be as a result of changes in the relational structure or as a response to the business requirements or needs of the members (Sharafizad, 2014). Therefore, in FWBNs, it is possible for unstable relationships to exist amongst the members or actors.

2.6.3 Flow in FWBNs

The distribution and exchange of resources within a network and amongst actors is referred to as flow of resources (Borgatti and Halgin, 2011). These resources can be in the form of information, social contacts, practical help, legitimisation, training, collaboration opportunities, cognitive resources and funding/financial assistance (Davis, 2012; Semrau et al., 2014). Entrepreneurs, especially women, are advised to join formal networks in order to access and gain these resources, as they are not easily accessible to them. A number of empirical studies have examined resource flow in women's informal networks (Khayesi et al., 2014; Kim, 2014). The findings from these studies reveal that women often rely on kin relationships to obtain resources that they require for their businesses, which in most cases is not always sufficient or could be redundant. While these studies provide useful insight into how women obtain resources from their kin ties and how this affects their business performance, there is a paucity of research on the nature of flow within FWBNs.

The study of the nature of flow has gained popularity in network research. The premise of these studies has been primarily based on the assumption that flow or distribution of information and resources occur when a connection or tie (relationship) is established between two actors within a network (Borgatti and Halgin, 2011). By examining how resources flow within a network, one can infer the position of the actors, the type of resources embedded within the network, and how these resources are distributed or exchanged in the network. Certain predictions can be derived from the flow model. For instance, one can propose that the more central an actor is in a network, the more likely they are to receive information or resources in comparison to other actors within a network (Hoang and Antoncic, 2003; Borgatti and Halgin, 2011). We could also examine how the flow of information or resources influences the outcomes of the network (Borgatti and Halgin, 2011). Networks are expected to have resources embedded within them either at a network level or at an individual level (Lin, 1999). At a network level, resources are created by the governing and coordinating actors by providing business and market solutions to the members. At an individual level, member actors possess resources due to their social and human capital (Lin, 1999). Resource-rich networks hold the capacity to provide greater benefits to its actors. In other words, the more resources are embedded within a network, the more the derivable benefits for its actors (Lin, 2000; 2005).

Research suggests that actors can attain resources within a network either through access to the network (via membership) or by mobilising relationships formed with other actors in the network (Lin, 2005). For resources to be mobilised in a network, relationships need to be created between actors (Lin, 2000; Rusanen, Halinen and Jaakkola, 2014). Hence, relationships are crucial to the attainment and exchange of resources at an individual level in a network (Semrau et al., 2014). Without attaining resources at an individual level, an actor is limited to the resources provided at the network level, and this alone is not sufficient for the business development of an entrepreneur. This is because, although entrepreneurs can access certain resources such as legitimisation, training, information through membership in networks, extant literature shows that other resources such as social contacts, collaboration, innovation, growth and market/sales opportunities are attained through individual relationships (Gedajlovic, 2013; Semrau et al., 2014). Hence, it is not enough to be involved in a network, entrepreneurs need to have relationships with other actors in their network in order to access resources that are specific to and embedded within individuals (Rusanen et al., 2014; Gedajlovic, 2013; Semrau et al., 2014). Such specific resources can be tacit knowledge, new clients, patronage, and collaborations.

In addition to establishing relationships, researchers argue that the more frequent the interaction between two actors, the stronger the bond they form and the more likely it is that trust and commitment will be built (Semrau et al., 2014). The presence of trust and commitment will in turn unlock easy access to and exchange of resources. This is because women in particular place trust in those they have interacted with more often, and are more inclined to share information and resources with someone they trust and consider a friend (Renzulli et al., 2000; Hanson and Blake, 2009). Semrau et al. (2014) further explain that while in certain cases, relationships with less attachment or friendship/kin bonds (weak ties) could be useful in reaching resources, more interaction and elements of friendship or kin (strong ties) could be more useful in unlocking access to resources. They also acknowledge that literature is inconclusive about the association between type of relationships and the type of resources or access to resources by an entrepreneur.

As individuals can improve the quality and quantity of their resources, so can collectives (networks). Networks can improve the quality and quantity of resources embedded within them by building relationships with external sources (groups, organisations, individuals, etc.) that are rich in resources or have resources on offer (Lin, 2005). Hence, actors coordinating a

network are advised to work towards increasing the quantity and quality of resources their members can have access to by building relationships with external sources (Lin, 2005).

It should be noted that since the primary objective in this study is understanding the nature of FWBNs, in order to maintain a manageable scope of inquiry, flow of resources is mostly conceptualised at the network level. This can provide understanding of the resources embedded in FWBNs, how these resources come about and how access to and distribution of these resources is ensured. At the individual level, the focus is on identifying how resources flow to the actors; the perceptions of the actors regarding their capacity to receive flow; and their perception about the level and type of resources embedded in the network.

2.6.4 Governance in FWBNs

Extant literature has mostly examined networks and related variables from an actor's point of view. Research on whole networks has been severely neglected. The implication of this scarcity of research about whole networks is that there is little known about how formal networks are formed, governed and how they impact on the development of women entrepreneurs. In addition, with the increasing recommendation for women's involvement in formal networks and the increasing investment and aids given to these networks, it is paramount that the governance of these networks be examined in order to assess their performance and other network outcomes. In summary, understanding network governance will provide insight on how network leaders coordinate and undergird network activities and elements, and how these are steered to produce network outcomes.

Networks are often formed with a purpose and/or goal in mind, and where different actors are involved, there is a need to ensure that a system is in place to coordinate relations, resources and ensure that all participants and activities are directed toward achieving the desired goals (Provan and Kenis, 2008). Hence, since networks involve several mechanisms and coordination, a system of governance should be in place. By nature, the governing body holds power positions and depending on the form of governance adopted, power can be asymmetrical or symmetrical. The governing structure also undergirds the interactions and exchanges between actors (Hoang & Antoncic, 2003).

While networks possess structural patterns and characteristics such as nodes and links as traditional network theory poses, networks are social entities that are more than that (O' Toole, 1997). Understanding the different configurations and forms of governance can inform different network level effects and serve as a baseline for developing whole network based theories - something that is still lacking, especially for FWBNs, in the body of literature (Provan and Kenis, 2008).

Governance theories tell us that governance can take the form of monitoring and control (agency theory); resource acquisition, provision and management (resource dependency theory); power hierarchy and management (power theory); and stewardship driven by trust, cooperation and intrinsic motivation (steward theory). Research shows that regardless of the form of governance adopted, the governing body of a network will be tasked with taking up the following key responsibilities (Singh et al., 2006; Provan and Kenis, 2008; Bonner & Spooner, 2011; Delanoe, 2013; Huang et al., 2013):

- Coordinate and manage all major network-level activities and decisions
- Provide administration for the network and/or coordinate the activities of members
- Ensure that all participants are involved in the network and share a commitment to achieving the network goals
- Direct the process of seeking, acquiring, controlling and providing resources for the members. This could be through funding, or relationships with key beneficial individuals, etc.
- Recognise, respond to and address network tensions relating to efficiency vs inclusiveness, internal vs external legitimacy, and flexibility vs stability
- Ensure the fostering of relationships between participants and address conflicts
- Deal with network-level issues and complexities

Singh, Vinnicombe and Kumra (2006) studied formal women networks in the UK and found that the above responsibilities were viewed as paramount to network success by the network leaders and were upheld by them as much as possible. The surveyed network leaders particularly reported that they had to provide administration for the coordination of resources and activities of the network, and ensure that the network goals were met (Singh et al., 2006). Spring (2009) also noted that formal women networks in parts of Africa are not a new phenomenon and the leaders have always been tasked with meeting the business and social

needs of women by providing resources and ways by which these can be accessed, exchanged and leveraged.

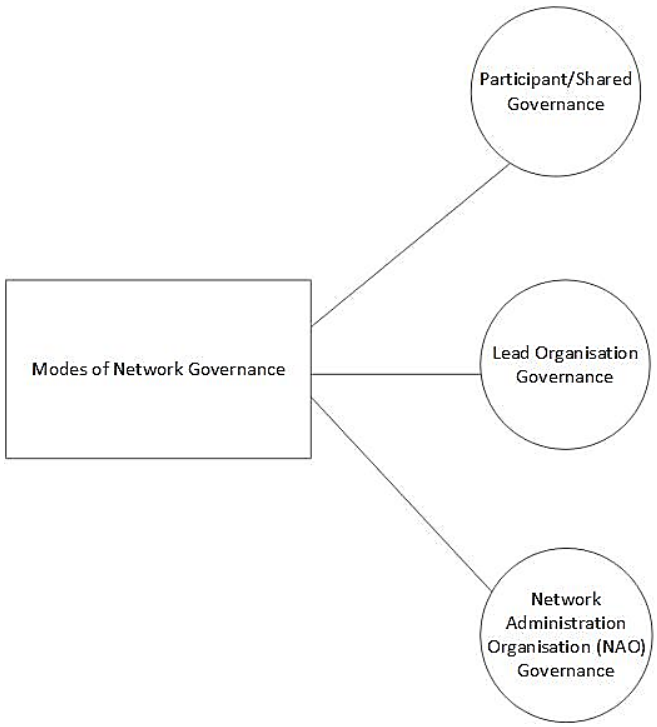

Figure 2.6: Modes of Network Governance

Provan and Kenis (2008) developed a framework that categorised formal network governance into three types (see figure 2.6). These are briefly discussed below:

Participant governed network: This is where all members are responsible for managing all internal and external operations and relations. This form of governance is highly decentralized, power is symmetrical and there is no distinct administrative body. This form of governance also promotes commitment to the goals of the network.

Lead organisation governed network: This type of governance is highly brokered, centralised and power is asymmetrical. All major decisions are made by one single participating member. The administration of the network, coordination of activities and acquisition/control of resources is done by this one lead. Mostly, the lead has sufficient resources and legitimacy suited for this role.

Network administrative organisation (NAO) governed networks: This form of governance is highly brokered, centralised and is often established either through mandate or by the members for the sake of governance. It involves a separate administrative body of just one person or formal body consisting of board members, an executive director and staff that

operate at a physical and distinct office. This form of structure may be to provide legitimacy, address unique network-level issues and reduce the complexity of shared governance.

Most of the formal networks that have been studied seem to adopt either the lead organisation governance model or the NAO model. While these studies did not explicitly examine modes of governance of these networks, their types of governance are inferred from the descriptions highlighted. For instance, the women networks in Singh et al.'s (2006) study had established formal leadership structures with drawn constitutions that involved vision and mission statements, and defined roles and responsibilities for those in leadership. Spring (2009) noted that the most established women business network in South Africa (Businesswomen Association - BWA), had physical offices that catered to administrative and developmental activities while also addressing membership and women's entrepreneurial needs.

Forms of governance could evolve over time from one form to the other; or due to changes in certain elements of the network; or for the sake of survival. As predicted by Provan and Kenis (2008), this will often be from shared to either lead or NAO; however, it is impossible to change from NAO to, say, shared governance. The choice of what form of governance to adopt will often be made at the discretion of the decision-makers of a network, or at the initiation of a network, which could be based on personal experiences and preferences or mandates.

2.6.5 External Support in FWBNs

In this study, external support refers to actors who are not members of the network, but provide resources that are useful either at the network-level or membership-level. With the growing interest in women development and empowerment, governments, developmental organisations, international and recognition bodies provide funds and support for women networks and groups (ICRW, 2012; UNCTAD, 2014). Several investments are put forward to enable a wide reach of women and ensure that they are developed personally and business-wise (UNCTAD, 2014). In some cases, the formation and creation of women networks and groups have been on such investments or mandates from these organisations and government (Bierema, 2005).

Networks, particularly FWBNs, receive sponsorships and/or make partnerships that provide resources in various forms for the network as a whole and also for the members of these

networks (Turrini et al., 2010; Delanoe, 2013; Huang et al., 2013). Individuals, organisations or the government are usually at the other end of these sponsorships and partnerships (Turrini et al., 2010; Delanoe, 2013). Some researchers argue that for networks to have a good range of beneficial resources, they should have connections and contacts beyond the network actors (Lin, 2008; Turrini et al., 2010). Also, the onus is placed on the leadership of the network to build such collective relationships and draw on external sources for resources (Human and Provan, 2000; Lin, 2008; Turrini et al., 2010).

2.6.6 ICT usage in FWBNs

ICTs have often been conceptualised in IS research from the tool view, proxy view, ensemble view, computational view and nominal view (Orlikowski and Lacono, 2001). For this study it is conceptualised from both the tool and proxy views. The tool view perceives ICTs as tools that enhance other elements and shape interactions due to their intended engineered attributes (Melville, Kraemer and Gurbaxani, 2004). The proxy view examines the perception of the usefulness and value of ICTs and how they fit into a particular context (Melville et al., 2004).

This study focuses on 'modern ICTs' such as mobile phones, internet, social media and personal computers (Ajjan et al., 2014). This is because these particular ICTs have a high rate of adoption and use in Sub-Saharan Africa by women entrepreneurs in general (Hilbert, 2011; ICRW, 2012). Also, this study serves as a response to the calls for studies that examine the use of ICTs within FWBNs in order to provide insight into how to create more effective policies and define areas where ICT can improve women business networks (ICRW, 2012; UNCTAD, 2014).

ICTs are technologies that create, store, retrieve, transmit and manage information (Jain, 2006). ICTs have evolved from analog and immobile devices to digital, ubiquitous and mobile technologies. The mobility, portability and ubiquitous nature of modern ICTs makes them highly advantageous, because they afford the ability to communicate and coordinate activities wherever and whenever (Gumpp and Pousttchi, 2005; Sheng, Nah, and Siau, 2005). As technology advances, ICTs become cheaper and more accessible, thereby offering cheaper and quicker ways of obtaining and disseminating information (Bloom et al., 2014). ICTs have opened a new range of interactions and sharing of knowledge by providing quicker and faster

ways to coordinate, communicate, process and exchange information (Brynjolfsson and Hitt, 2000; Sundarajan et al., 2013). Economic theories, such as transaction cost theory, have been applied to assess and explain the value and cost benefits of ICTs to organisations (Bakos and Kemerer, 1992). Transaction theory posits that by reducing the costs and difficulties of gathering information and engaging in physical interaction, ICTs support and enhance an organisation's structure (Jamali, Voghouei and Nor, 2014). Uncertainty theories, furthermore, posit that ICTs can help organisations mitigate against environmental uncertainties, due to ease of access to information that enables them gain a grasp of trends and environmental conditions (Jamali, Voghouei and Nor, 2014). A reduction in such uncertainties could ultimately lead to increased ability to survive and meet challenges. Thus, as tools that provide cost reduction, timeliness, convenience and improvement in access to information, and which result in enhanced strategic decisions and improved productivity, ICTs have become a useful and valuable resource for organisations (Drnevich and Croson, 2013). At the core of networks is the grouping of different actors with the goal of accessing beneficial resources such as information and exchanging resources through relationships and interactions. ICTs can be of value to networks by providing ways to communicate, coordinate activities and transmit or access information and resources (UNCTAD, 2012).

For women entrepreneurs who are members of eFWBNs, ICTs can assist with providing ease of access to business network activities. The ubiquitous, mobility and portability features of modern ICTs, such as mobile phones and social media, reduces or eliminates geographical, time and cost constraints for women when networking (Farr-Wharton and Brunetto, 2007). Consistent with this view, Masika (2014) found that women entrepreneurs who juggle heavily between work and family life can participate in networks and establish relationships remotely with the use of mobile phone technology. Research also shows that the use of mobile phones help women entrepreneurs develop and facilitate relationships, enhance their networking capabilities and consequently build their social capital (Buskens and Webb, 2009; Masika, 2014). However, some findings in literature suggest that women entrepreneurs are sometimes constrained with mobile phone usage, due to limited digital literacy and know-how (Burrell, 2010; Hilbert, 2011; ICRW, 2012).

Ajjan et al. (2014) argue that ICTs such as social media and messaging applications encourage sharing of information and resources at low cost and to a wider reach, which can lead to increased social capital and exchange of innovative ideas. This corroborates observations by

other researchers that social media such as Facebook and Twitter not only provide growth and revenue benefits for women's ventures (Indrupati and Henari, 2012; Ubeda, Gieure, de-la-Cruz, and Sastre, 2013), but have become platforms for women to gain empowerment and self-efficacy through access to useful resources and information (Ajjan et al., 2014). A report by Greenwood, Perrin and Duggan (2016) moreover provides empirical evidence that Facebook is the most used social media platform in the US particularly amongst women. Research shows that Whatsapp is currently the largest and most widely used messaging application globally (Rosenfeld et al., 2016). A report by Srivastava (2014) states that most of the active women online in India prefer using Whatsapp compared to other online applications for their interactions and communication. This is because Whatsapp affords quick, immediate responses to forms of digital communication at significantly low cost and requires little technical sophistication for its use. Women use this medium to consume and share information both at personal and business levels. While extant studies about networking functions or use of Whatsapp is scarce, what research there is shows that women are major adopters and users of Whatsapp (Greenwood, Perrin and Duggan, 2016). These views suggest that the use of ICTs such as social media and messaging applications can serve as means to improve the contributions FWBNs make to women entrepreneurs' development. Although, gender gaps still exist in African contexts regarding internet use (Lindsey, 2016), and the bulk of the aforementioned studies are centred on women in Western countries and developing countries such as India, the findings and insights provided by the observations are taken into account in this study.

Research is not only extensive on the advantages or plus or affordance of ICTs, there are also arguments regarding the challenges associated with the adoption and use of ICTs. For women entrepreneurs, studies show that they do not leverage ICTs to the fullest due to issues of trust, safety, cost, technical know-how or digital literacy and easy access for those in developing countries (Buskens and Webb, 2009; Hilbert, 2011; ICRW, 2012). Although not specific to women, some authors have also found that the use of technology produces intended and unintended consequences such as exposure of personal of information which could be damanaging from a poitical and personal point, misuse of an individual's information, tracking of people's use on the internet leading to exposure and privacy concerns (Abbas, Michael and Michael, 2015). These factors create a reluctance amongst individuals when it comes to the extensive use of ICTS (Xu, Michael and Chen, 2013; Abbas et al., 2015). For organisations and networks, the adoption or use of ICTs could be influenced by top

management support, knowledge of ICTs, perceived usefulness and commitment to technology advancements (Ghobakhloo, Hong and Standing, 2016). Extant literature shows that in organisations where the knowledge of management is limited or where there is little inclination to the adoption and use of ICTs, there will be little to no use or adoption of ICTs (Watson, 2006; Robb and Watson, 2012; Ajumobi and Kyobe, 2017).

2.6.7 Contribution and benefits of FWBNs

Most network research describes the benefits entrepreneurs can gain from a network as social capital. Social capital can be defined as the benefits derived (resources) by the actors in a network from the social contacts they make (Gabbay and Leenders, 1999; Portes, 1998). Kim (2014) states that social capital can be in three forms: bonding, bridging and linking social capital. Bonding social capital is derived from kin relationships (Beugelsdijk and Smulders, 2003). Bridging social capital is derived from links that involve communities or groups that differ in characteristics such as age, race or socioeconomic status (Harpham, Grant, and Thomas, 2002). Linking social capital is derived through relationships formed with institutions and individuals that offer resources, ideas and information that one would normally not get from kin or community (Szreter and Woolcock, 2004). For women, they are known most often to have more bonding social capital than other kinds, as their networks are usually informal networks (Kim, 2014). In order to gain other forms of social capital, they need to join FWBNs.

In addition to gaining social capital, researchers continue to propose that FWBNs have the potential to provide other business benefits to women entrepreneurs (Aldrich and Zimmer, 1986; Pini et al., 2004; Khayesi et al., 2014). These benefits include business legitimisation, advocacy, information, business knowledge and skills, mentorships, and social, moral and emotional support (Gabbay and Leenders, 1991; Portes, 1998; Spring, 2009; Dawson et al., 2011; Davis 2012; Kim, 2014). Developmental organisations and reports on women entrepreneurship have also emphasised that business networks contribute to the business development of women entrepreneurs and as such recommend that women entrepreneurs participate in these networks (Spring, 2009; Bonner and Sponner, 2011; UNCTAD, 2014). This recommendation is based on the premise that FWBNs provide access to useful resources and benefits that are not easily accessible to women entrepreneurs, due to social, cultural and other

constraints (Hanson and Blake, 2009; Redd, 2014; Kim and Sheredan, 2014; Davis, 2012; Sharrafizad, 2014)

While literature is extensive on the contribution of networks to the development of women entrepreneurs and the benefits they can provide, there is limited knowledge about how FWBNs go about doing this. There is also limited insight into what the nature of these benefits are and the perceptions of women entrepreneurs of the contribution and benefits. This study seeks to uncover how eFBWNs contribute to the development of women entrepreneurs and the personal benefits women entrepreneurs derive from participating in eFWBNs.

2.7 GAPS IN THE AVAILABLE LITERATURE AND LIMITATIONS OF CURRENT THEORIES ON NETWORKS

The literature review revealed some gaps in knowledge around the eFWBN phenomenon. Figure 2.7 (on p. 63) offers an overview of these identified gaps.

As highlighted in the previous discussions, most studies have either examined the women within networks or women's informal networks, or else studied networks either from a descriptive approach or from the SNT (social network theory) premise (Greve and Salaff, 2003; Hanson and Blake, 2009; Loscocco et al., 2009; Davis, 2012). There is scarcity of research that has examined FWBNs or WBNs from a whole network perspective, or even formal networks in general (Haythornthwaighte, 1999; Provan and Kenis, 2008). Most studies have been from an ego perspective (Kuada, 2009; Bogaards et al., 2011; Dawsan et al., 2011; Omwenga et al., 2013). Hence there is limited understanding of FWBNs as entities and as a whole, as opposed to merely the actors within them or the relationships and resources of women when it comes to networks and networking. Also, there is a paucity of research on networks that have considered governance, ICTs and external support from a holistic perspective.

Due to the limited understanding on eFWBNs it is difficult to assess whether or not these networks are really beneficial to the growth of women's entrepreneurship. Researchers recommend participation in them, based on the perception that these networks should have what it takes to contribute to the development of women entrepreneurs. However, it is difficult to know which aspects of FWBNs improve women's businesses or even improve the

FWBNs themselves. Furthermore, it is difficult to proffer solutions and improvements to these networks or women's involvement in them, due to the limited focus of past theories or studies. Considering globalisation and the interest of several developmental organisations in empowering women especially through ICTs, it is important that fresh and updated insight is given on FWBNs (UNCTAD, 2014).

Furthermore, most of the studies and theories on networks and networking or women entrepreneurs are disjointed and have examined the various aspects involved for a FWBN in different ways and in different disciplines. A holistic study – where all elements are examined at once and the impact of each on the whole is also identified and theoretically understood – is currently lacking. In addition, most of the studies on women's business networks use social network theory as the baseline for discussion or argument either from a structural or resource approach perspective, but not from both perspectives. However, a combination of both approaches (Kim and Sherraden 2014) with other theoretical perspectives can enhance our understanding of women business networks. In addition, there is paucity of empirical observations and theorisation on the dynamics and complexities that result from the interplay and relationships within a network. This requires attention in research as these interplays and dynamics are crucial to understanding the structures of FWBNs and their value/contribution to women entrepreneurs.

Source/Study	Specific to just Women Entreprenuers	Informal networks	Formal networks	General network approach	Sample/Target population	Structural Approach	Resource Approach	Both Approaches	Other Approaches	Ego centered/Whole Network Research	Recommendation for W.Es involvement in formal networks	Research/findings on W.E. limited involvement in FWBN	Major Network concepts/Aguments	Role of ICT
Ajjan et al. (2014)	Y	X	X	Y	X	X	Y	X	X	E	Y	X	Y	Y
Aldrich & Zimmer (2001)	X	X	X	Y	X	Y	Y	Y	X	X	X	X	Y	X
Bierema (2005)	X	X	Y	X	US	Y	Y	X	Y	E	Y	X	Y	X
Bogaards, Klerk & Mostert (2011)	Y	X	X	Y	SA	X	X	X	N	E	Y	X	Y	X
Bonner & Spooner (2011)	X	Y	Y	X	X	X	X	X	N	W	Y	Y	X	X
Borgatti & Halgin (2011)	X	X	X	Y	X	Y Y	Y	Y	X	W	X	X	Y	X
Casson & Biusta (2007)	X	X	X	Y	X	X	Y	X	X	E	X	X	Y	X
Colleen (2014)	Y	X	X	Y	US	Y	X	X	X	E	Y	X	Y	X
Davis & Abdiyeva (2012)	Y	X	X	X	CA	X	X	X	N	X	Y	X	X	X
Davis (2012)	Y	Y	Y	X	X	X	X	X	N	X	Y	X	X	X
Dawson et al. (2011)	X	X	X	Y	UK	X	X	X	Y	E	X	X	Y	X
Farr-Wharton & Brunetto (2007)	Y	X	Y	X	Austr	X	Y	X	X	E	Y	X	Y	X
Gordon (2014)	Y	X	Y	X	X	X	X	X	Y	E	Y	X	X	X
Granovetter (2005)	X	X	X	Y	X	Y	Y	X	X	W	X	X	Y	X
Greve & Salaff (2003)	X	X	X	Y	US	X	X	X	Y	E	X	X	Y Y	X
Hanson & Blake (2009)	X	X	X	Y	X	X	X	X	N	X	X	X	Y	X
Hoang & Antoncic (2003)	X	X	X	Y	X	X	X	Y	X	X	X	X	Y Y	X
DeVita et al. (2014)	Y	X	X	X	contine	X	X	X	N	X	Y	X	X	X
Johannisson et al. (2002)	X	X	Y	X	Sweden	X	X	Y	X	W	X	X	Y	X
Khayesi et al. (2014)	X	X	X	Y	Uganda	X	Y	X	X	E	X	X	Y	X
Kim & Sherraden (2014)	X	X	X	Y	X	X	X	Y	X	E	Y	X	Y	X
Kim (2014)	X	X	X	Y	US	X	Y	X	X	E	X	X	Y	X
Kuada (2009)	X	X	X	Y	Ghana	X	Y	X	X	E	X	X	X	X
Lin (1999; 2000; 2002)	X	X	X	Y	X	X	X	Y	X	X	X	X	Y	X
Loscocco et al. (2009)	X	X	X	Y	NY	Y Y	Y	X	X	E	X	X	Y Y	X
Masika (2014)	X	X	X	Y	Uganda	X	Y	X	X	E	X	X	X	Y
McDade & Spring (2005)	X	X	Y	X	Africa	Y	Y	X	X	E/W	X	X	X	X
O'Donnell (2014)	X	X	X	Y	Ireland	X	Y	X	X	E	X	X	X	X
O'Donnell et al. (2001)	X	X	X	Y	X	X	X	X	Y	X	X	X	Y	X
Oke (2013)	Y	X	X	Y	Nigeria	X	Y	X	X	E	Y	X	Y	X
Omwenga et al. (2013)	Y	X	X	Y	Kenya	X	Y	X	X	E	Y	X	X	X
Pini et al. (2004)	X	X	Y	Y	Australia	Y	Y	X	X	W	X	X	X	X
Pollack et al. (2014)	X	X	X	Y	US	X	X	X	Y	E	X	X	X	X
Salvador et al. (2014)	X	X	X	Y	Europe	X	X	X	X	X	X	X	X	Y
Spring (2009)	Y	X	Y	Y	Africa	X	X	X	Y	X	X	X	X	X
UNCTAD (2014)	Y	Y	Y	X	X	X	X	X	X	X	Y	X	X	Y

Figure 2.7: Gaps identified in the available literature

X = Not in study, Y = in study

Indicators for the table			
Specific to just Women Entreprenuers		**Resource Approach**	
Red	Not on networks in particular but on women entrepreneurship	**Green**	Social Capital
Yellow	Comparisons between women and men	**Blue**	Benefits derived from the exchange of resources
Blue	Non-business women networks	**Both Approaches**	
Informal networks		**Green**	Combination of both approaches for better insight
Red	Definition and description of informal networks	**Orange**	Combination of both approaches for better explanation
Formal networks		**Yellow**	Overall analysis of the social network
Yellow	Within company formal networks	**Other Approaches**	
Blue	Generally Formal networks	**Orange**	Impact/outcome of networks
Red	Definition and description of formal networks	**Green**	Influence/impact of character on networking outcome
Green	Inter-firm networks	**Red**	Network activities/influences
Orange	Formal women business networks (FWBN)	**Major Network concepts/Aguments**	
General network approach		**Yellow**	Social Network Theory
Yellow	Networking Practices	**Blue**	Social capital Theory
Blue	Network Orientation	**Red**	Actors, Ties, relationships
Red	Network theorerizing	**Green**	Centrality, density, diversity, content
Green	Networking Outcomes	**Role of ICT**	
Structural Approach		**Yellow**	Use of social media
Yellow	Positions and agency	**Blue**	Use of mobile technology
Blue	Type (size, diversity, content)	**Red**	ICTs in general
Red	Operation and governing structure/elements		
Green	Relationships and ties		

Figure 2.8: Indicators for table 2.7

2.7.1 Integrated framework of theories to examine eFWBNs

In order to fill the gaps identified in the available literature, this study has drawn from other disciplines to understand the phenomenon under investigation, and developed a holistic model that represents the integration of different theories that explain the different aspects of a network as shown in Figure 2.9. The literature review above shows how different theories have been used to explain different concepts that pertain to FWBNs. Extant theories and studies have provided valuable insights on the different concepts, but this has been done mostly in parts and by examining the elements in isolation. For example, women entrepreneurship theories mostly concentrate on women's issues regarding business success and growth. These issues relate to culture, social norms, resources available to them, work-life balance, competencies, strategies, use of technology, access to and creation of beneficial networks. Network theories focus on actors within a network, the relationships in the network and the resources or flow of resources. Some studies on networks and entrepreneurship have gone further to combine both fields, to examine how an actor's network or networking activities/approach influences their business outcomes and entrepreneurial pursuits. Most theories on ICT and networks have been constructed from the point of view of how ICT platforms can be used to foster or create networking among individuals, but not women entrepreneurs in particular. These theories have been premised on research into online social networking as opposed to research into an FWBN. Further, theories on ICT usage have either focused on the organisations or the women leading them – there is scarcity of research that has examined ICT usage within FWBNs.

					Expected Outcomes
Base Theory (Social Network Theory – SNT)	Social Network Theory (SNT)				
Proposed Core/ Nodal elements/ concepts of a network	Actors [Position]	Relationships/Ties	Structure	Resources [Flow]	Contribution and Personal Benefits
Other Theories	• Culture Theory • Disadvantage Theory • Motivation Theory • Entrepreneurship Theories • Social Capital Theory • Agency Theory • Relationship Theories • Capability Theory • Dynamic Theory • Social Position Theory	• Entrepreneurship Theories • Social Capital Theory • Network Resource Theory • Agency Theory • Relationship Theories • Social Position Theory	• Entrepreneurship Theories • Social Capital Theory • Network Governance Theory • Economic Theories • ICT usage Theories • Capability Theory • Dynamic Theory • Social Position Theory • Transaction Theory • Governance Theories • Uncertainty Theory • Feminist theories	• Entrepreneurship Theories • Social Capital Theory • Network Resource Theory • Network Governance Theory • Agency Theory • Relationship Theories • Capability Theory • Dynamic Theory • Social Position Theory	• Entrepreneurship Theories • Social Capital Theory • Dynamic Theory • Agency Theory
Theorised Nodal and non-nodal elements/ concepts of a network	Actors [Position] [Demographic Attributes] [Networking Approach]	Relationships/Ties	Structure [Governance] [ICTs]	Resources [Flow] [External Support]	Contribution and Personal Benefits

Figure 2.9: Integrated theoretical framework to guide the inquiry of eFWBNs

Although the focus of these theories vary, they complement one another in different ways and certain aspects. For instance, the women entrepreneurship theories and the culture or disadvantage theories both highlight how cultural and social issues can pose challenges to businesses and business activities. Network theories complement women entrepreneurship theories by explaining how the agency of an actor can influence the resources they acquire or the structure of their network. Economic theories and ICT theories overlap by highlighting how ICTs can reduce transaction costs and uncertainties in business/organisational environments. Women entrepreneurship theories and ICT theories overlap in describing how women leverage ICTs and the shortcomings they face. Network theories overlap with governance theories in explaining the efforts and roles of leadership and how these can influence the activities and other elements within a network. While these theories complement one another and overlap in certain aspects, a holistic framework that merges these various theories together to examine the nature of FWBNs is currently lacking.

To take the above discussion forward, the integrated framework in this study has drawn from various disciplines and theories that explain the concepts of an eFWBN, and this framework has guided the inquiry into eFWBNs. The integrated framework provides a way of offsetting the shortcomings of SNT and other theories around FWBNs. Furthermore, the integrated

framework serves as a step towards understanding the nature of eFWBNs from a whole network perspective as opposed to examining networks from an ego-centred perspective – that is, deviating from examining networks from just the perspective of the actor and not the network itself. The elements and aspects identified in the literature review on network research, coupled with the integrated framework that highlights different theories that explain these different elements, have been used to develop the conceptual model. Details of the conceptual model and the selected constructs, as well as the theoretical perspective adopted to measure and test the model, are discussed in Chapter 3.

2.8 SUMMARY AND CONCLUSION OF CHAPTER

This chapter has discussed the different aspects pertaining to the study's research focus and issues. An overview of business networks was presented, followed by a discussion on women entrepreneurs and the state of their participation in networks and need for their involvement in eFWBNs. Subsequently, the characteristics, strengths and limitations of FWBNs were highlighted. There followed a review of network theories and approaches that were selected for integration into a holistic framework. Social network theory (SNT) serves as the baseline theory for the framework, with the inclusion of other theories, such as economic theories, theories on ICT, entrepreneurship theories and network governance theory. After the review of SNT and the different approaches, the application of the other theories to the study was outlined with discussion of the elements proposed to understand the nature of eFWBNs. Subsequently, the gaps in the available literature were identified, and the approach and stance proposed for this research were presented. The chapter concluded by outlining the framework that integrates the different theories examined to explain eFWBNs.

The following chapter discusses the theoretical/conceptual model and approach that will guide the present study in filling the gaps, as well as answering the research questions to meet the research objectives.

CHAPTER 3:
CONCEPTUAL MODEL AND THEORETICAL PERSPECTIVE

"It is the theory which decides what we can observe." – Albert Einstein

3.1 INTRODUCTION

This chapter presents the theoretical model and perspective that serves as the guiding lens for this study (see figure 3.1 below for the chapter overview). To this effect, the following sections discuss the guidelines for building a theoretical model and how these guidelines have been applied. The theoretical foundations and premise that drive the selection of constructs and understanding of the conceptual model developed are laid bare. The constructs, causal logic and the propositions to be tested are also discussed.

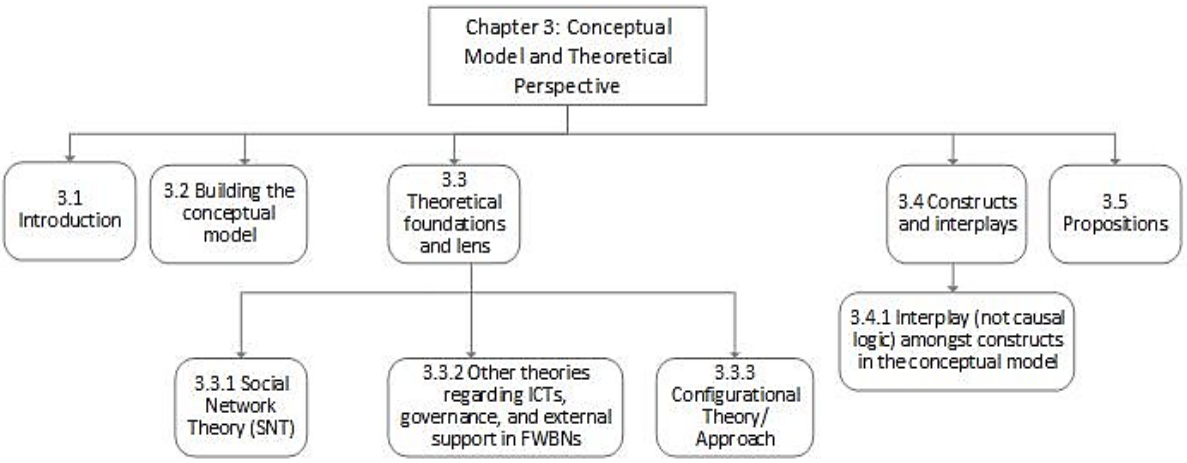

Figure 3.1: Overview of Chapter 3

3.2 BUILDING THE CONCEPTUAL MODEL

Although extant literature varies in views and approaches to what a theory is or how it should be developed, there is consensus on the value of theory and the importance of a theoretical contribution. For this study, the researcher defines theory broadly as "… a statement of concepts and their interrelationships that shows how and/or why a phenomenon occurs" (Corley and Gioia, 2011, p. 12). A theory serves as an ordered representation of an observer's point of focus and interest in the 'real' world (Dublin, 1976).

The different referents to theory have been acknowledged by researchers (Sutton and Staw, 1995) and as such, to dispel any misconception, the researcher notes that theory here also

serves as a conceptual model (Gregor, 2006). Whetten (1989) argues that a theory must comprise elements which address the what, how, why, and who, where and when questions. These questions lead into the following aspects: the constructs or factors identified to provide understanding or fresh perspective on a phenomenon; the relationships proposed between these constructs; the conditions under which these relationships are meant to hold; and the scope or extent, respectively, of these aspects. In her discussion about theories within the IS field, Gregor (2006) also highlights these elements and further proposes that evaluation of theories should be based on the 'goal' of the theory. To wit, a researcher should implicitly or explicitly communicate if the theory is primarily aimed at analysing/describing, explaining, predicting, prescribing, or explaining and predicting a phenomenon. She also opines that a theory should be relevant to the research questions posed and to the nature of the problem the study seeks to address. Although not similar to this line of argument but still on the subject of theory, Sutton and Staw (1995) caution researchers with respect to five elements (references, data, list of constructs, diagrams, hypotheses/propositions) that are often misrepresented as theory. To delve in detail into each discussion highlighted would be overwhelming and unnecessary for the purposes of the present study; hence, the views have been combined and summarised into the following steps and components to be taken into account for the development of the conceptual model (see figure 3.2):

First, express the what, how and why of the theory (Whetten, 1989): In this study, the what, how and why are explained by presenting the theoretical foundations and premise from which the conceptual model was derived, and the theoretical lens/perspective adopted to assess, measure and explain the relationships specified in the model. This is evident in subsequent sections.

Second, explicate the scope (who, where, when) of the theory (Whetten, 1989; Gregor, 2006): The scope of the conceptual model is implicit in the propositions presented in the section below.

Third, articulate the purpose/goal of the theory (Gregor, 2006): The purpose of this conceptual model is to analyse and explain phenomena (Gregor, 2006). In other words, the model will be used to (i) describe what eFWBNs are in terms of structure, and (ii) explain the dynamics and relationships between elements identified for eFWBNs.

The following sections discuss the theoretical foundations and the premise from which the conceptual model was derived; the theoretical lens/perspective adopted to assess, measure

and explain the relationships specified in the model; the constructs and interplay; and the propositions to be tested in this study.

3.3 THEORETICAL FOUNDATIONS AND LENS

This section sheds light on the theoretical perspectives that have contributed to the development of the conceptual model. The reader will recall that these theoretical perspectives are integrated into a holistic framework to guide the development of the conceptual model and the inquiry into eFWBNs (see figure 2.9, on p. 66). Subsequently, the theoretical lens that guides the testing of the model is presented.

3.3.1 Social Network Theory (SNT)

The literature review in Chapter 2 involved discussion of several theories (e.g. disadvantage theory, culture theory, social network approaches) to explain specific concepts and variables and also to shed light on networks and related concepts. In addition to these theories, social network theories in particular have been adapted to examine and identify the structure and resources within a network. Social network theory was discussed in detail in Chapter 2. It was shown that SNT posits that networks will ultimately comprise of actors, the relationships and exchanges between them and the resources embedded in the connections between actors. This premise has been used to predict outcomes such as increase in social capital and better business performance (Lin, 2000; Kim and Sherraden, 2014). While these theories/frameworks exist and provide some insight, none of them are sufficient to examine the whole phenomenon of this study or sufficient to capture the complex concept of eFWBNs. More so, other possible acting elements within a network have been omitted and as such limit our understanding about networks, especially formal networks, which are regarded as entities of their own.
The following section highlights the other theories that have provided understanding on elements that exist in FWBNs.

3.3.2 Other theories regarding ICTs, governance, and external support in FWBNs

Network governance theory posits that networks that are goal-oriented and operate as entities will be coordinated and undergirded by a model of governance (Hoang and Antoncic, 2003; Provan and Kenis, 2008). Governance has been studied in different contexts, but for networks, research on governance is still at an infant stage and lacks the popularity it should enjoy. However, some pioneer researchers have argued for the importance of governance in networks and why this area should be examined and theoretically understood. The first major attempt at constructing a theory of governance within networks was undertaken by Provan and Kenis (2008). Provan and Kenis (2008) developed a typology on network governance. They proposed that this mode of governance could be the participant governed model, the lead organisation model or the network organisation administration (NAO) model. Most studies on women's formal networks, although not explicitly stated, indicate that the NAO model is being adopted (Singh et al., 2006; Spring, 2009). Nonetheless, there is little empirical observation on governance within networks, particularly eFWBNs. It is important that governance is examined in eFWBNs, due to their formal nature and the influence of governance on structures and the attainment of goals for any entity.

Literature is extensive on the importance and value of ICTs. Regarding networking and organisations, economic theories and theories on ICT use by women entrepreneurs posit that ICTs can be used to provide and gain social capital and also, ICTs can influence relationships and different aspects of a network (Bakos and Kemerer, 1992; Jamali, Voghouei and Nor, 2014; Ajjan et al., 2014). This suggests that ICTs are invaluable to FWBNs if they are to survive global changes and stay well-suited to meet the needs of their members in the current era of globalisation. However, due to the heavy focus on SNT concepts and metrics, little has been done to provide insight into how ICTs are leveraged within eFWBNs, and ways in which their current use could be improved or increased. This gap calls for studies that examine ICTs within eFWBNs in order to improve guidelines and solutions regarding ICT use in the fast-changing global environment that FWBNs now operate in.

Some researchers argue that for networks to have a good range of beneficial resources, they should have connections and contacts beyond the network actors (Lin, 2008; Turrini et al., 2010). Therefore it is important for the leadership networks to build external relationships and draw on external sources for resources (Human and Provan, 2000; Lin, 2008; Turrini et al.,

2010). Past studies show that FWBNs often get sponsorships and make partnerships that provide resources such as professional advice, funding, loan schemes, advocacy and capacity building programmes for the network as a whole and for the members of the network (Singh et al., 2006, Spring, 2009; Delanoe, 2013; Huang et al., 2013). However there is limited understanding of how eFWBNs go about gaining external support and how this impact on the outcomes of eFWBNs.

This has offered opportunity for a conceptual model that integrates elements of SNT and other theories mentioned above to be developed. The constructs for this model include actors, relationships, flow (of resources), governance, external support and ICTs. These constructs were selected based on the literature review and the integrative framework presented in Chapter 2 (see Figure 2.9, on p. 66). The model takes a configurational theory perspective and follows the premise that there are core elements within formal women business network structures which interact and influence each other in different ways. In other words, the elements interplay. (See Figure 3.1 below). This perspective and its application to this study is explicated in the following section.

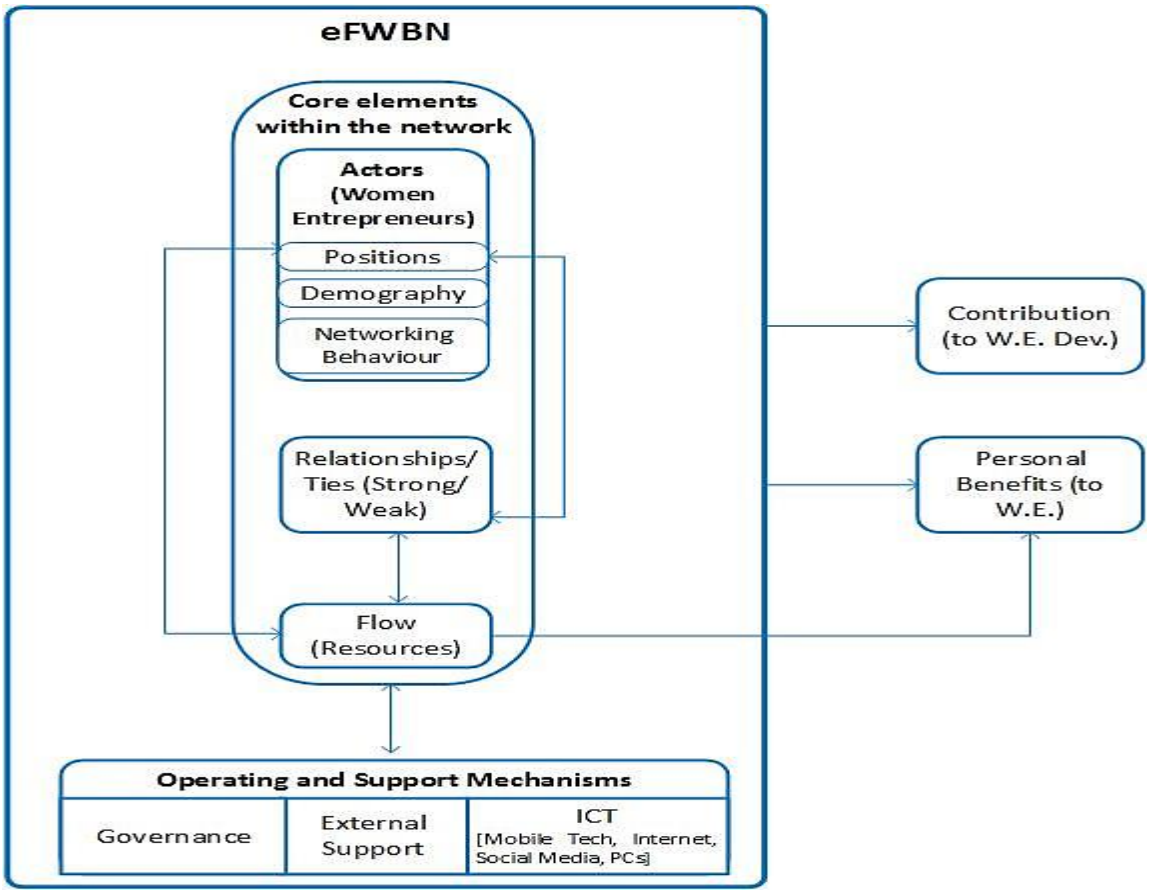

Figure 3.2: Conceptual model of an ICT-supported formal women business network (eFWBN)

3.3.3 Configurational Theory/Approach

Configuration theory has a long-standing tradition of providing perspective on the study of organisations (Meyer, Tsui and Hinings, 1993). The essence of configuration theory lies in the premise that a number of interactions between structures, technologies, strategies, groups, and outcomes cluster to form configurations or gestalts (Miller, 1987; Meyer et al., 1993). Organisation theorists argue that within every configuration there are one or more imperatives that underlie and constellate organisational configurations (Miller, 1987; Meyer et al., 1993). Miller (1987) identifies four key imperatives that often play some role in configurations; they are leadership, structure, environment/technology and strategy. These imperatives drive other organisational elements, and their influence on a configuration results in varying interplay and interaction amongst these elements, leading to different outcomes (Miller, 1987). For example, an organisation that is simple and entrepreneurial, or paranoid and compulsive, will have the leadership imperative as the dominant driving influence. Where there are organic, decentralized and flexible structures in response to uncertain environments, the environment imperative is dominant. Miller (1987) further argues that the more interactions and interplay in configurations, the more they attain uniqueness, unity and stability. Within every configuration is a central theme (Miller, 1996). This could be the personality of a leader driving the strategy and structure, or conforming structure and strategy to the environment. Miller (1987) states that certain mechanisms sustain the dominant imperative in a configuration. This is referred to as the evolutionary momentum. It could be an organisation's reluctance to change a familiar strategy, or the willingness to embrace innovation, or the nature of power distribution, that is, centralisation or decentralisation.

There are two principles that underlie configurational classifications (Meyer et al., 1993). The first is that for an organisation to achieve a desired outcome and maintain stability there must be coherence between organisational elements (Meyer et al., 1993; Fiss, 2007). The second principle relates to examining organisations in a holistic manner as opposed to a narrow classification or analysis of organisational properties (Meyer et al., 1993; Fiss, 2007). The focus of this view is to examine a social entity as a whole, to identify the patterns that have resulted from the interactions between the parts of the social entity. Ketchen et al. (1997) suggests that an inductive or deductive approach can be taken to derive configurations. An inductive approach involves little theory development and relies on empirically driven classifications to understand the relationship between configurations and outcomes (e.g. performance)

(Ketchen and Shook, 1996). A deductive approach involves the use of *a priori* theory or concepts to describe the nature of a configuration and the expected outcomes. For this study, the deductive approach has been adopted (Ketchen et al., 1993). Ketchen et al. (1997) argue that there is no significant difference in the ability of either approach to explain performance. However, the deductive approach holds greater promise of providing understanding of past theories and concepts and helps validate the replication of findings by specifying underlying processes and variables (Ketchen et al., 1997). These two objectives are paramount in this study, firstly because of the limited knowledge of the application of past theories to the understanding of FWBNs, and secondly because of the need to provide understanding of an under-researched phenomenon.

The literature review conducted in this study reveals that the core elements within an eFWBN, and the operating and support elements, interplay and interact in different ways. When these elements work harmoniously or achieve coherence between them, they will yield good performance or outcomes. To measure and understand these interplays and the relationships, a bidirectional, non-linear view is adopted (Fiss, 2007). Researchers and extant studies have used a number of clustering techniques to identify configurations and the effects of these configurations on the key outcome variable (Fiss, 2007). Cluster analysis uses "all observed relationships among configuration-defining variables to assign cases to clusters" (Ketchen et al., 1997, p. 227). For this study, cluster analysis was deemed appropriate to test the interplay amongst the variables proposed and to help derive configurations. This is because it is an exploratory statistical method that rearranges data according to the mean score of responses (cases) on each variable into different clusters, thereby revealing patterns (Fonseca, 2013). The major aim of cluster analysis is to find groups of objects that are mutually exclusive, thereby making the similarities and differences between these objects as distinct as possible. Cluster analysis helps to group cases based on the responses to the various variables. The cluster analysis procedure used in this study is discussed in detail in Chapter 6.

The following section presents the constructs and highlights the interplay identified in the literature regarding the elements in eFWBNs.

3.4 CONSTRUCTS AND INTERPLAYS

Actors, relationships/ties, flow, governance, external support and ICT are posited as elements of an eFWBN. Together these elements result in outcomes – in this case, contribution to the development of women entrepreneurs and personal benefits to women entrepreneurs. Thus, actors, relationships/ties, flow, governance, external support and ICT are the input variables in this model that are posited to impact on the output variables in the model (contribution to the development of women entrepreneurs and personal benefits to women entrepreneurs).

As indicated in the discussions above, the constructs in the conceptual model (see Figure 3.1) were selected based on the assessments made in the literature review. The constructs were mainly derived from social network theory and other theoretical postulates based on network research and entrepreneurship research. The core elements were selected according to the premise governing all network research that, at their core, networks should have actors, relationships between the actors, and flow of resources between the actors. The governance, external support and ICT constructs were selected based on discussion in literature about their possible existence and influences in a network. The combination of these elements is expected to produce certain outcomes, such as business development benefits to the actors.

Table 3.1 shows the different constructs selected for this study towards an understanding of eFWBNs, and their definitions

Table 3.1: Constructs in an eFWBN and their definitions.

Constructs/concepts/ variables	Definition	Sources
	Core elements within the network	
Actors	These are represented as nodes within a network and serve as a core within a network. Through them, resources are exchanged and relationships are formed and maintained. They have varying characteristics, occupy varying positions and differ in their networking behaviour. In FWBNs, the core actors will be mostly women entrepreneurs.	Haythornthwaite (1996); Borgatti & Halgin (2011)

Positions	Actors could be central, dependent, independent, excluded or included. This could be influenced by the agency of an actor	Bourdieu (1986); Hoang & Antoncic (2003); Lin (2005); Borgatti & Halgin (2011)
Demography Characteristics	This involves information on the age, educational qualification, age of business, type of business, technology use, and marital status. Studies show that these often influence the networking behaviour of women and also influence the way the run their businesses.	Ibarra (1993); Ahl (2006); Radhika & Sreekala (2011); Bogren et al. (2012); Sospeter et al. (2014)
Networking behaviour of women entrepreneurs in sub-Saharan Africa	This involves the networking approach/activity of women entrepreneurs, which informs the types of networks they belong to (formal/informal; homogenous/heterogeneous) and how they go about networking (that is, the relationships they form, how they maintain them and how they make use of the social contacts they make).	Greve & Salaff (2003); Oke (2013); Bogaards, Klerk & Mostert (2011); Omwenga et al. (2013); Sharafizad (2014)
Relationships/ Ties (Strong/weak)	When there is a connection between two or more people, a relationship is formed (Haythornthwaite, 1996). Actors are linked by a relationship when they maintain the relationship. A tie is formed from all the relationships maintained by pairs of actors. These ties can either be strong or weak. The strength of a tie is determined by the frequency of interaction, the level of intimacy and the emotional bonds that link the actors.	Scott (1991); Haythornthwaite (1996); Granovetter (2005); Redd (2014)
Flow (Resources)	This involves the distribution of resources between actors which normally occurs along network paths created through relationships between actors. These resources can be in the form of information, social contacts, practical help, collaboration opportunities and cognitive resources, funding, etc.	Scott (1991); Borgatti (2005); Borgatti & Halgin (2011); Davis (2012)
	Operating and support mechanisms	
Governance	This refers to the management and coordination of affairs of the network. This should include information about the formation and sustenance of the network. The power mechanisms usually lie with the management team. The governance also undergirds and coordinates exchanges within the network	Hoang & Antoncic (2003); Provan and Kenis (2008); Borgatti & Halgin (2011); Bonner & Spooner (2011)

External Support	This involves resources outside the network that are pulled into the network for actors to benefit from. These resources are provided by the governing and operating body or by external stakeholders. They are in the form of training programmes to enhance skills, financial assistance, emotional support and legitimisation.	Bierema (2005); Lin, 2008; Bonner & Sponner (2011); Spring (2009)
ICT (Mobile Tech, Internet, Social media, PCs)	ICTs are technologies that are used to create, store, retrieve, transmit and manage information. Thesed ICT tools assist in facilitating and enhancing the activities within the network and also from the network to other women entrepreneurs.	Jain, (2006); ICRW (2012); Ajjan et al. (2014); Masika (2014); UNCTAD (2014); Salvador et al. (2014); Jenner (2015)
Outcomes from network		
Contribution (to W.E. Development)	This involves the contribution of the FWBNs to the development of women entrepreneurs in terms of their personal growth and business performance and can be visible through impact and growth of the network.	Bonner & Sponner (2011); Spring (2009); Davis & Abdiyeva (2012); Kim (2014); UNCTAD (2014)
Personal Benefits (to W.E.)	This refers to the benefits derived by women network members. It could be in form of social capital and legitimisation.	Gabbay & Leenders (1991); Portes (1998); Dawson et al. (2011); Kim (2014)

3.4.1 Interplay (not causal logic) amongst constructs in the conceptual model

As noted in the preceding section, configurational theory does not restrict the relationship between elements to linearity or single causation. Causal relationships are expected, but not only one model or one nature of constellation amongst the variables is expected (Meyer et al., 1993; Fiss, 2007). Also, as opposed to performing bivariate or multivariate analysis to provide understanding, the configurational approach examines patterns in the combination of different elements (Meyer et al., 1993; Fiss, 2007). Moreover, some researchers argue that networks comprise various relational configurations that yield certain outcomes (although not restricted to this) (Provan and Kenis, 2008). In addition, the structural properties of networks do not occur in one mode; rather, a network configuration will have unique structural attributes and produce network-level outcomes based on the interaction of elements within the network (Sundarajan et al., 2013; Westaby et al., 2014). For these reasons the relationships and interplay expected or predicted are explored. Also, this study posits that

the nature of causality amongst the elements of a network will vary; hence a configurational theory perspective is adopted. Further, rather than an individualist approach to examine the effects of these variables, the researcher argues that a holistic approach is more appropriate, considering the interrelationships amongst the elements within a network and the nature of networks. Based on the literature review in Chapter 2, the following sections discuss the expected interplay between the elements in a network.

3.4.1.1 Flow ⟷ Position, Network approach and activity, Governance, ICT, Relationships

The literature review revealed that the flow of resources can be impacted on by the position of an actor in a network and vice versa (Borgatti and Halgin, 2011). For example, when an actor is central in a network, they are more likely to acquire resources faster than others within the network (Hoang and Antoncic, 2003). Another interplay exists between flow of resources and the network approach and activity of an actor. Research shows that when actors exercise agency in creating relationships and are active within a network, they create avenues to access and exchange resources (Borgatti and Halgin, 2011; Watson, 2011). On the flip side, actors who are passive and lack agency in creating relationships will often seem excluded from the resources flowing within the network (Borgatti and Halgin, 2011). This shows that relationships are crucial for actors to access and exchange resources (Semrau et al., 2014). Governance in networks also impacts on the kinds of resources that are embedded within a network and how these resources are distributed. Lin (2008) and Turrini et al. (2010) argue that it is the responsibility of network leaders to ensure that they establish relationships with external bodies that can offer or provide resources at the network-level. Another relationship exists between flow of resources and ICTs. With ICT tools such as internet and social media, actors within networks can exchange and access information and resources without time, geographic and cost constraints (Farr-Wharton and Brunetto, 2007; Masika, 2014). For women in particular, ICTs aid and facilitate their communication abilities (Ajjan et al., 2014). The flow of resources and distribution or exchange of resources resources can be facilitated or enhanced by ICTs such as the internet and social media (Buskens and Webb, 2009; Ajjan et al., 2014; Masika, 2014).

3.4.1.2 Governance ⟷ Resources, types of actors (Demography), Relationships, ICT, External support

Extant literature shows that governance undergirds all the elements of a network and coordinates the activities and exchanges between actors (Hoang and Antoncic, 2003; Provan and Kenis, 2008). For example, the governance in a network is tasked with providing and controlling resources, and deciding on the type of actors (membership) for the network (Singh et al., 2006; Provan and Kenis, 2008). The membership of the network can also influence governance in cases where they elect the governing body (Provan and Kenis, 2008). The governing body in a network also seeks resources for the network from other bodies and organisations and the contribution of these external bodies impacts on the network in terms of the resources provided (Human and Provan, 2000; Lin, 2008; Turrini et al., 2010). Furthermore, since the governing body is responsible for decision-making in a network, it can be inferred that the use of ICTs will be highly reliant on the leadership of the network. Extant studies have found that managerial and leadership positions influence the nature of ICT usage within women-led organisations (Watson, 2006; Robb and Watson, 2012; Ajumobi and Kyobe, 2017).

3.4.1.3 Actors ⟷ Flow of Resources, Relationships, Governance

The demographic qualities of actors can indicate the human and social capital they possess (Lin, 1999) and this can be exchanged or shared when relationships are formed between actors (Lin, 2000; Rusanen et al., 2014). For relationships to be built and for resources to be exchanged, it requires actors and a connection between them. Researchers argue that entrepreneurs need to have relationships with other actors in their network in order to access resources that are specific to and embedded within individuals (Rusanen et al., 2014; Gedajlovic, 2013; Semrau et al., 2014). Such specific resources can be tacit knowledge, new clients, patronage, collaborations, etc. As indicated in previous sections, the networking approach and activity of actors highlights their level of agency and their agency often determines how they mobilise relationships and resources. Research also shows that the actors in a network can sometimes become part of the governing body or contribute to the governance of a network through feedback and commitment to achieving network goals

(Singh et al., 2006; Provan and Kenis, 2008). This suggests a relationship and interplay between actors and governance in networks.

3.4.1.4 ICT ⟷ Flow of Resources, Relationships, Governance

The ubiquitous nature of ICTs, as well as the ease of use, access and mobility features of ICTs, affords actors the ability to exchange and distribute resources within a network (Brynjolfsson and Hitt, 2000; Farr-Wharton and Brunetto, 2007; Sundarajan et al., 2013). ICT tools such as Facebook, Whatsapp and mobile phones have been observed to aid and facilitate the exchange of information and resources amongst women (Ubeda et al., 2013; Rosenfeld et al., 2016). Also, ICTs are able to influence relationships by affording cheap and easy ways of communication and sharing of information (Bloom et al., 2014). ICTs interplay with governance when its use facilitates certain activities and operations and provides efficiency and cost reduction to the network (Bakos and Kemerer, 1992; Jamali et al., 2014).

3.5 PROPOSITIONS

Propositions have been formulated following the development of the conceptual model and with guidance from the reviewed literature. Each proposition is discussed in turn below.

Configurational theorists suggest that to understand and predict outcomes in organisations, examining each element will give only limited insight; therefore, organisations should be examined as a whole to derive and assess patterns that give rise to different outcomes. Furthermore, configurational theory posits that when organisations (in this case eFWBNs) attain coherence amongst the elements within them, the stronger the whole will become and the greater or more improved the outcomes and performance of the organisation (Meyer et al., 1993; Fiss, 2007). In light of these arguments, the following proposition is made:

> *P1: The stronger the coherence between the core elements within an eFWBN and the operating and support mechanisms the greater their contribution and benefits.*

Global advancements and changes are making organisations more technology-inclined. By becoming technologically inclined, organisations can gain competitive advantage and meet the needs of their stakeholders more efficiently and effectively (Lengrand & Chatrie, 2000;

UNCTAD, 2014; Kyobe et al., 2015). Researchers also argue that ICTs offer strategic improvements and effectiveness, and provide ways to reduce cost, eliminate time and geographical constraints, and provide social capital (Bakos and Kemerer, 1992; Drnevich and Croson, 2013). For these reasons, it is important that FWBNs leverage and utilise ICTs for their activities and for their network members (UNCTAD, 2014). Taking into account these arguments, the following propositions hold:

> *P2: If the ICT usage by members of an eFWBN is high, then the contribution and personal benefits will be high.*
> *P2b: If the ICT usage by an eFWBN is high, then the contribution and personal benefits will be high.*

Extant literature suggests that the more flow there is of resources within a network and amongst actors, the more the benefits that will be derived (Lin, 2000; 2008). This suggests that without the flow of resources it is impossible for a FWBN to cater to the needs of women entrepreneurs. Networks are expected to provide beneficial resources to their actors and for FWBNs, this expectation is even greater (Davis & Abdiyeva, 2012). Apart from providing resources, these networks are also expected to create avenues that will ensure that these resources are distributed and accessed by the actors in the network (Human and Provan, 2000). While these resources may vary in type and level of importance or availability and accessibility within the network, a higher level of resources in general within a FWBN will most likely influence the level of contribution and the benefits derived (Lin, 2000; 2008; Sharafizad, 2014)). Based on these insights, the following proposition is made:

> *P3: If the flow of resources to and from members within an eFWBN is high, then the contribution/ benefits of eFWBNs will be high.*

Several studies have posited that the more weak ties an actor has, the more they are likely to gain resources that are beneficial to their business or professional development (Kim, 2014; Davis, 2012). In some cases, women seek strong ties because they believe they will gain emotional and personal support from such relationships and for this reason women have been known to form informal networks (Hanson and Blake, 2009). For women entrepreneurs to gain, they are advised to join FWBNs. This is because FWBNs are meant to provide more weak

ties and as a result, more business benefits will be derived. In light of these observations and views, the following proposition holds:

> *P4: If the weak ties within an eFWBN are high, then the business benefits derived by women in eFWBNs will be high.*

3.6 SUMMARY AND CONCLUSION OF CHAPTER

This chapter has outlined the steps and aspects that guides the development of the conceptual model. The conceptual model was presented in the form of a diagram illustrating the concepts and relationships considered vital for an eFWBN. The limitations of SNT as the sole theory to guide the research as well as the adaptation of SNT to the development of the model was also discussed. Thereafter, the position of the researcher regarding the configurational approach as the perspective adopted to guide the measurement and testing of the model's application was presented. Afterwards, the constructs for the research inquiry and their definitions were highlighted. The interplay that was predicted by the literature to exist amongst the selected elements for an eFWBN were explicated. The chapter concluded by articulating the propositions for the study.

The next chapter presents the research methodology of this study.

CHAPTER 4:
RESEARCH METHODOLOGY

"Be stubborn about your goals, and flexible about your methods." – Unknown

4.1 INTRODUCTION

This chapter presents details of the of the research design for this study (see Figure 4.1 below for the chapter overview). The philosophical assumptions in terms of ontological, epistemological and methodological views are discussed. Details of the research strategy and research methods adopted are presented.

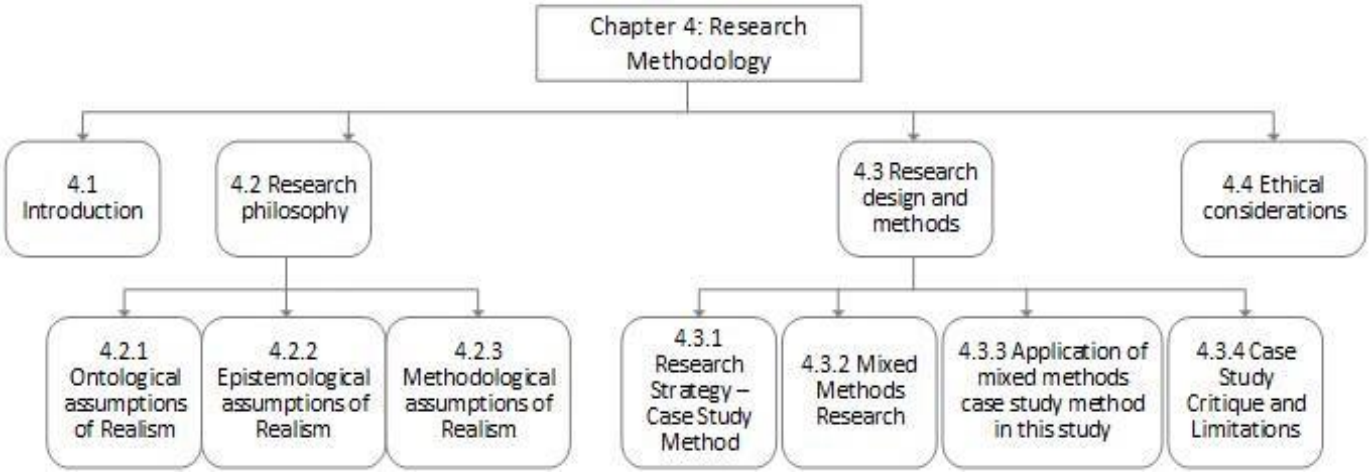

Figure 4.1: Overview of Chapter 4

4.2 RESEARCH PHILOSOPHY

The major objective of my study is to explore eFWBNs in sub-Saharan Africa in order to gain understanding of their structure and their use of ICTs. To achieve this objective, a conceptual model based on a review of multidisciplinary literature, foundations of SNT and the configurational theory has been developed.

For any research, one's philosophical assumptions need to be considered and explicitly stated, as these assumptions present implications for the entire research (Holden and Lynch, 2004). Philosophical assumptions consist in three fields of enquiry: ontology, epistemology and methodology. Ontology answers questions relating to the forms of reality and what about reality is observable or unobservable (Guba and Lincoln, 1994; Gelo, 2012). Epistemology

addresses how this reality can be observed (if observable) and the relationship between the observer and this reality (Guba and Lincoln, 1994; Gelo, 2012). In other words, epistemology answers the question: '*What is the nature of knowledge?'* Methodology is concerned with the tools or techniques employed by a researcher to investigate and discover this reality (Guba and Lincoln, 1994; Gelo, 2012). The following discussion expands on the philosophical stance taken for this research and the assumptions guiding this study.

The philosophical stance taken for this study is realism. As with many views in science, realism has been open to scrutiny and opposing schools and as such, several versions have emerged in order to strengthen this stance or simply argue for its relevance, worthiness, accuracy and appropriateness (Hjorland, 2004; Maxwell and Mittapalli, 2010). Different terms have been used to classify realism, thereby resulting in the existence of various forms of realism (e.g. critical realism, scientific realism, naïve realism). Although they all share the same assumption, namely, that reality exists independently of perceptions, there are slight differences between them (Campbell, 1988; Maxwell and Mittaplli, 2010). Naïve Realism is one of the oldest forms of realism. This view posits that the real world is exactly as we perceive it or exactly as it appears in our common sense (Mastin, 2008; Ghins, 2009). This view has been heavily attacked and rejected for the longest time in history and the debates in opposition to this view remain unresolved (Ghins, 2009; Maxwell, 2012). The major challenge to this view is that it does not account for the possibility of the same object appearing differently to different people or even appearing to the same person in different ways at different times (Mastin, 2008; Ghins, 2009). Scientific realism holds the view that science alone describes the real attributes of the world and that these attributes are independent of our perceptions (Schwandt, 1997; Mastin, 2008). Proponents of this view believe that there are primary or constant attributes of reality (such as shape, size, distance, hardness), and that all other properties of reality perceived by an observer are not so different from those described by theories or science (Mastin, 2008). The major critique to this view is that it fails to account for the fact that all scientific knowledge and measurements did not emerge on its own, but in one way or another arose from the perceptions and consensus of those who have theorised about the features of the real world (Leplin, 1984; Ghins, 2009). Hence, many researchers continue to object to this view and remain unconvinced of its assumptions. Within the IS discipline and social science field in general, the version of realism known as critical realism has gained wide attention. However, for this research, the stance taken is not that of critical realism, due to its assumption of subjectivity, multiple realities and meanings (Patomaki and Wight, 2000). More

so, some aspects of critical realism seek to engage in critical views of a phenomenon for emancipatory and social justice purposes – two purposes that do not align with the objectives of this research (House 1991, Patomaki and Wight, 2000).

Due to the debates over and critiques of these various forms of realism that exist and have existed, and because of the confusion these debates and variations bring up, Maxwell (2012) proposes taking a broader, 'umbrella' view of realism. This version of realism takes the ontological view that reality exists independently of the observer, but integrates it with the epistemological view that reality can be understood through multiple perceptions (Campbell, 1988, Schwandt, 1997). Following Maxwell's (2012) suggestion, the broader/umbrella stance of realism has been adopted for this study; its ontological, epistemological and methodological assumptions are elucidated in the following sections. This philosophical view aligns better with this study, as will be seen.

4.2.1 Ontological assumptions of Realism

Ontologically there are two spectrums that guide the view of reality in any research. On the one hand, reality is viewed as 'out there' and its existence is opined to be independent of the human mind (Holden and Lynch, 2004). This view is often referred to as objectivism (Holden and Lynch, 2004). On the other hand, reality is viewed as mind-dependent; proponents of this view argue that reality is socially constructed (Holden and Lynch, 2004). This view is often referred to as subjectivism (Holden and Lynch, 2004).

Ontologically, realism holds the assumption that the universe comprises hard, immutable objects and structures that exist independently of an observer's perceptions, interests or influences (Hirschheim, 1985). Therefore, reality can be observed objectively and knowledge derived from such views can be *value-free*. A realist seeks to understand causality from a reductionist perspective. To wit, a realist views structures as sets of objects with causal relationships and mechanisms through which these causal relationships occur and interplay (Sobh and Perry, 2006). The ontological assumptions of realism are similar to that of objectivism (Holden and Lynch, 2004); however, while reality is viewed as mind-independent, realists acknowledge that multiple perceptions of this reality could exist. In other words, they acknowledge that their view of the real world could vary from what it actually is. Hence as Sobh and Perry (2006, p. 1200) put it, "…real external world is only imperfectly and

probabilistically apprehensible." Essentially, while noting that their view of this reality can vary from what actually is, a realist takes cognisance of context and relevant factors, and adopts means and methods to construct and enhance their perception in order to attain a fairer picture of reality (Sobh and Perry, 2006; Ghins, 2009).

Due to the scarcity of literature on eFWBNs, and the minimal knowledge of the researcher about the phenomenon, the present research is exploratory in nature. Hence, an objective stance is taken to unpack knowledge on the structure of eFWBNs and their use of ICTs. Although scant literature does explain the structure of eFWBNs and how they leverage ICTs, an integrative and multidisciplinary framework of various theories has guided the development of the conceptual model used for this research. This is in line with the realist's view that, although a single reality exists, the perceptions of other observers of this reality should be taken into consideration before one begins one's own assessment and observations of the phenomenon (Sobh and Perry, 2006).

On the other extreme, the subjectivist view dictates that an understanding of social phenomena can only be reached through accepting that reality is the social construction of objects by an individual or/and an observer (Sobh and Perry, 2006). This is contrary to the objectivist view that reality (the world we are born into) consists of pre-existing causal laws that provide understanding of the patterns present in our social behaviour (Holden and Lynch, 2004, p. 402). For the present research, the premise is based on the understanding of FWBNs as structures that exist of and consist in interrelated and interacting objects that produce certain outcomes. The available literature is in agreement that these objects do exist and the impact of their interaction can be determined objectively. To illustrate, an eFWBN is viewed in this study as the combination and interaction of elements such as actors, relationships, resources and supporting mechanisms. This view of the structure of eFWBNs assumes an *a priori* relationship and interplay among a set of elements and the resulting outcomes. Hence, the researcher argues that since a world view of what eFWBNs are like already exists, an understanding of this phenomenon is not hinged on individual perceptions of eFWBNs. The phenomenon can be understood independently of the human's mind and perceptions and inquiry can be done objectively. In light of this, this study supports the realist ontological stance and rejects the subjectivist view that reality only exists in the mind of an individual (Hunt, 1993). As such, the objectivist view is taken to answer the overall research

question posed in this study, which is: *What is the nature of an ICT-supported FWBN (eFWBN) in Kenya and South Africa?*

4.2.2 Epistemological assumptions of Realism

Epistemological assumptions as defined above focus on unpacking what the nature of knowledge is and how we can go about observing reality. Recent proponents of the realism stance argue that epistemologically, realism posits that while a mind-independent reality exists, there could be varying perceptions or modes of observation of this reality (Krauss, 2005; Maxwell and Mittapalli (2010). Hence, an observer maybe *value-cognisant* and apply multiple methods to understand the social world or a phenomenon (Krauss, 2005). To this end, this researcher takes the epistemological view that posits that to apprehend the nature of knowledge and reality, it must be borne in mind that there can be different perceptions and modes of observation of this reality. As noted previously, the application of multiple methods strengthens and/or enhances a realist's perception of reality and consequently, a better picture of this reality is obtained (Campbell, 1998).

Olsen (2008) highlights some epistemological criteria a realist uses to ensure a good enquiry of knowledge. These are summarised into three key points. First, the research design should show it fits the purpose of the research by accounting for the prospective participants, and the various views that could influence the observer's view (Olsen, 2008). Second, it is necessary to ensure that the validity of the findings and report are well communicated (Olsen, 2008). Validity can be achieved by using various methods and collecting data from various sources of evidence to enhance understanding and give better insight. Third, one should conduct a cross-theoretical triangulation, that is, a multidisciplinary account of the phenomenon under investigation (Olsen, 2008). These criteria have been considered and employed in this study and they are elaborated at different points in this thesis.

4.2.3 Methodological assumptions of Realism

Methodologically, Realism supports the use of mixed methods and proponents of realism strongly argue for the use of mixed methods in any realist research (Krauss, 2005; Sobh and Perry, 2006; Maxwell and Mittapalli, 2010). As stated earlier, realists are aware of the various perceptions and views of what reality 'looks like' and as such, they adopt a variety of means and seek different sources to try to obtain the most accurate picture of reality. Maxwell and

Mittapalli (2010) note that while experimental and traditional quantitative methods have been useful in identifying causal relationships, they fall short in explaining the mechanisms that give rise to these relationships as well as the conditions under which these relationships are bound to hold. In light of this, qualitative methods have been adopted and proven to be very useful in addressing this shortcoming. Further, Maxwell and Mittapalli (2010) argue that the use of mixed methods can on the one hand address the limitations of either pure quantitative or qualitative methods and, on the other hand, provide rich insights into a phenomenon (Maxwell and Mittapalli, 2010). In addition, the use of mixed methods is particularly useful for exploratory research and instances where there is scant literature and limited or fragmented knowledge about a particular phenomenon (Venkatesh, Brown and Bala, 2013). In this study, the case study method is the umbrella research strategy adopted to guide the inquiry, and this involves the use of both qualitative and quantitative methods to gain multiple insights and understanding of the phenomenon. By nature, the case study method lends its guidelines and principles to realist assumptions and also accommodates the use of mixed methods (Krauss, 2005; Yin, 2016). The use of mixed methods in this study also includes the use of multiple sources of evidence (triangulation). Sobh and Perry (2006) argue that triangulation in realism results in a group of answers that foster understanding of a single, complex, external reality. In this study, eFWBNs by their nature are presumed to embody dynamics and complexities; hence multiple sources of evidence can help identify these dynamics and complexities, and uncover the mechanisms and conditions under which they occur.

The following section explicates the research design, strategy and methods adopted in this study.

4.3 RESEARCH DESIGN AND METHODS

The following sections describe the adopted research strategy and the application of different methods in this study. Figure 4.2 provides and overview of the research design and methods.

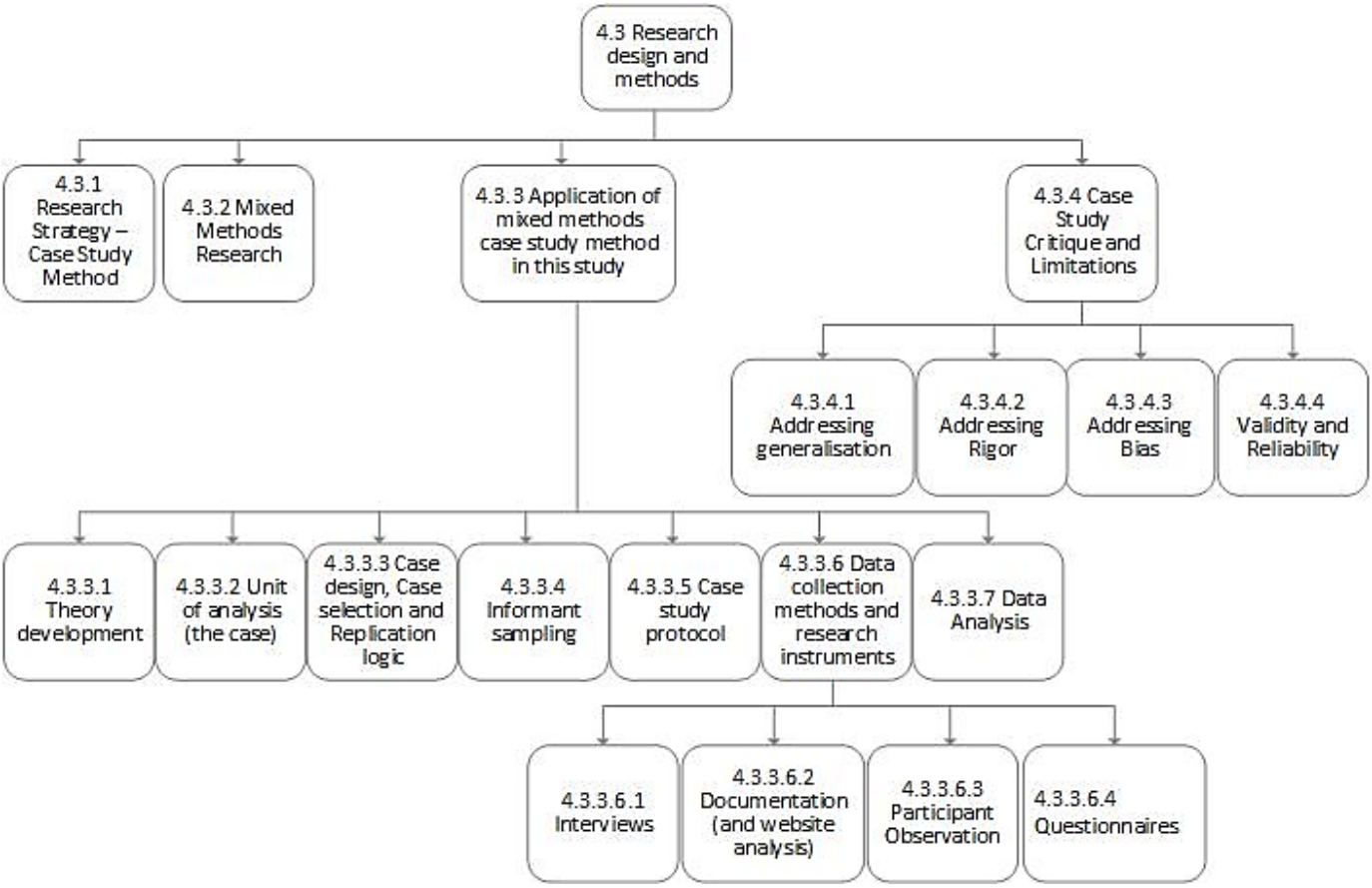

Figure 4.2: Overview of research design and methods

4.3.1 Research Strategy – Case Study Method

Case study as a research method has evolved over the years from being rejected to being accepted and becoming one of the most widely used research methods in the Information Systems field (Benbasat et al., 1987; Lee, 1989; Pare, 2004; Tsang, 2014). Several authors have argued for its validity within the IS research space and written extensively about how it can be applied to carrying out various streams of research (Benbasat et al., 1987; Lee, 1989; Pare, 2004; Tsang, 2014). Case study method has various definitions that can be classified into two

main points. First, the case study is a method that is used to examine a current phenomenon and such a phenomenon can only be understood in-depth in its natural setting, that is, within its real-world context. In such instances, it is unclear at the start of the research what the boundaries between the phenomenon and the context might be; to examine the phenomenon, no manipulation is needed (Yin, 2014). Second, a case study inquiry requires multiple sources of evidence from one or more entities to establish the distinctiveness of a situation (Yin, 2014).

Case study method is mostly used in exploratory or explanatory studies. It helps to answer "how" or "why" research questions and "what" questions that seek to explore a phenomenon (Yin, 2014). For the current study, the case study method has been chosen over other research methods, because of the emphasis on not being able to study the phenomenon outside its context. More importantly, the nature of the research questions call for specific and contemporary observations, which the researcher has little control over – a situation in which the case study method's strength lies (Yin, 2014). The research questions in the present study are both "what" and "how" questions posed in order to explore ICT-supported FWBNs (eFWBNs). In addition, the case study method is highly valuable and recommended for cases where an in-depth understanding of an area that has gained little popularity in research is desired. In order to understand how eFWBNs operate and the nature of their structure in Kenya and South Africa, they have to be studied in their natural settings within the context of where they exist. This is because the boundaries between the phenomenon and context are unclear. In other words, gaining in-depth insight and understanding of the nature and contribution of eFBWNs, and how they use ICTs, cannot be fully achieved by studying the phenomenon outside the context in which it occurs. Based on these factors, the case study method was chosen. Unlike most research which adopts a purely or dominant qualitative case study research, Yin (2014) suggests adopting a mixed methods approach to enrich the understanding of a phenomenon and to ensure triangulation of findings. Following this suggestion, this study adopts a mixed methods case study research.

4.3.2 Mixed Methods Research

Mixed methods research involves both the use of qualitative and quantitative approaches or methods for a single research topic. Mixed methods research offers a balance of depth and breadth to understand a phenomenon (Venkatesh, Brown and Bala, 2013). The use of mixed methods is advocated within the IS discipline by researchers such as Mingers (2003) and

Venkatesh et al. (2013), who have argued for its desirability, feasibility, and application within the IS discipline. Nonetheless, mixed methods research in the IS field is still at an infant stage and is yet to be widely used. In the broader social science space, researchers such as Johnson and Onwuegbuzie (2004), Onwuegbuzie and Johnson (2006) and Tashakkori and Teddie (1998, 2003) have written extensively on mixed methods and its application and suitability to research. Hence, one can conclude mixed methods research is recognised and accepted as a viable research approach.

Venkatesh et al. (2013) argue that a mixed methods approach within an IS study is suitable in instances where there is scant or inconclusive research about a phenomenon. In addition, a mixed methods approach is highly recommended in cases where extant theories are based on contexts different to the context under investigation. In this study, these conditions apply, confirming the appropriateness of the use of mixed methods. Furthermore, this study seeks to gain diverse, complementary views and rich explanations of and insights into the phenomenon, all of which are reasons that justify the use of mixed methods (Venkatesh et al., 2013).

There are two major designs that can be used in mixed methods research for the data collection, analysis and interpretation – they are called the concurrent, and sequential mixed designs (Creswell, Plano Clark, Gutmann, and Hanson, 2003). The sequential design involves two phases of data collection and analysis (Terrell, 2012). Quantitative data can be collected and analysed first, followed by qualitative data collection and analysis (in an instance where the goal is explanatory); or the researcher collects and analyses qualitative data first, followed by the quantitative data collection and analysis (in an instance where the goal is exploratory) (Creswell and Zhang, 2009). The purpose of the sequential design is usually to use one method to build on the other or inform the development of the other (Cresswell, 2014).

The concurrent design involves the collection of both qualitative and quantitative data during the same phase of the study (Creswell et al., 2003). The data collected can be analysed separately and merged at the interpretation phase, or could be merged at both the analysis and interpretation phases of the study (Terrell, 2012). Merging the data at the analysis phase involves transforming one form of data to the other (Tashakkori and Teddlie, 1998). For example, qualitative data could be transformed to quantitative data through quantitisation (Sandelowski, Voils and Knafl, 2009). Equal priority can be given to both qualitative and

quantitative data; alternatively, the researcher can decide to give one data type priority over the other (Creswell et al., 2003). This design is further divided into the triangulation, nested and transformative designs (Creswell et al., 2003). Although they share similar features for a concurrent design, their differences lies in the purpose for each approach (Creswell et al., 2003). The purpose of the transformative design is to position the study within a transformative framework. This involves driving the entire study based on the assumptions of a theoretical perspective that aims to assist a marginalised group (Terrell, 2012). The major purpose of the triangulation design is to corroborate, cross-validate and confirm the findings within a study (Terrell, 2012). This design also enables the weakness of one method to be offset by the strength of the other method. The use of a nested design could be for different reasons. First, it could be used to gain wider perspectives from both forms of data as opposed to one (Creswell et al., 2003). Second, it could be used in an instance where qualitative data is needed for aspects that cannot be quantified (Morse, 1991). Third, it could be used to collect data from different groups or levels within a study (Tashakkori and Teddlie, 1998). Lastly, it could involve the use of a research method within the framework of another research method (e.g. case study method within an experiment) (Creswell, 2014).

For this study, the concurrent nested design was adopted. The concurrent nested design differs from the triangulation design because of the nesting factor where either the quantitative method or qualitative method is nested or embedded within the other (Creswell et al., 2003). The embedding or nesting may mean that the nesting method answers a different research question from the dominant method or that the embedded method seeks information from a different level within an organisation or population (Tashakkori and Teddlie, 1998). In this study, the dominant method is the quantitative method because (1) it helps to test the theoretical model and answer the primary research question, and (2) the majority of the responses used for the analysis were received using quantitative methods. The qualitative method was applied to gather in-depth information regarding the networks especially in terms of their governance, external support and use of ICTs at the network-level. Details of the data collection and analysis are provided at different points in this thesis.

The following sections discuss the application of the case study method in this research project. The methods, approaches and techniques employed at the data collection and analysis stages of this study are also presented.

4.3.3 Application of Mixed Methods Case Study Method in this study

In designing a case study research project, there are different aspects to be considered and thought through. These aspects include the unit of analysis, case design and selection, theory development, replication logic, case study protocol, validity and reliability tests, data triangulation, informant sampling and data collection methods (Pare, 2004; Yin, 2014). The application of these aspects in this research are discussed in turn below.

4.3.3.1 Theory development*:* Case studies – unlike other related forms of qualitative methods such as ethnography – rely on a set of *a priori* theoretical propositions to determine the nature and purpose of inquiry (Yin, 2014). This theory or theoretical framework serves as a strong guide to the data collection and analysis strategies applied in the study. Also, having a theoretical framework and/or set of theoretical propositions helps in ensuring that the study is generalisable (Flyvbjerg, 2006; Yin, 2014). The reader will recall that in this study (as presented in chapter 3), a conceptual model was developed based on the integration of SNT and other theories found in the available literature on ICTs, governance and external support. Based on this model, a set of *a priori* propositions were formulated to guide the data collection and analysis.

4.3.3.2 Unit of analysis (the case): Yin (2014) suggests that case study researchers should ensure they define the case(s) and bound the case(s) at the beginning of the study. This is to avoid ambiguous or very broad scopes that could lead to doing too much or doing too little. Stating or clearly defining the unit of analysis ensures consistency in the collection of data and reporting of findings (Benbasat et al., 1987; Pare, 2004). A case or unit of analysis could be an event or entity ranging from individuals to groups or organisations. The unit of analysis in this study is eFWBNs. As the research questions, objectives and proposition imply, the present study seeks to understand the nature and structure of these networks in terms of the actors, the relationships, the flow of resources, the governance, the external support and the use of ICTs.

4.3.3.3 Case design, Case selection and Replication logic: There are four basic types of case study designs (Pare, 2004; Yin, 2014). They are single case holistic design, single case embedded design, multiple cases holistic design and multiple cases embedded design. For this study, the case design adopted is the multiple cases embedded design. This involves having several

cases with more than one embedded unit of analysis within a case. Multiple case studies are able to provide more compelling evidence and as such are more robust in comparison to single case studies (Benbasat et al., 1987; Pare, 2004; Yin, 2014). However, they are limited in their ability to provide insight for extreme, critical and unusual cases – which the present study, however, is not concerned with. In deciding on multiple cases design, the replication logic (not sampling logic) needs to be accounted for (Yin, 2014). Replication logic, as opposed to sampling logic, applies to case studies, because of the amount of possible observations of cases that can be carried out in a specific period of time (Yin, 2014). Moreover, in case studies, selection of cases are not done to make inferences for an entire population but to gain optimum understanding of and insight into a phenomenon (Flyvbjerg, 2006; Yin 2014). There are two forms of replication logic – one is literal and the other is theoretical. In this study, the literal replication logic was applied, because the researcher predicted similar results across different cases (Pare, 2014). Literature shows that FWBNs are expected to have a certain structure and certain outcomes (as proposed in the conceptual model); hence, multiple cases, using literal replication logic, was selected to test this prediction.

According to Pare (2004) and (Yin, 2014), the criteria for selecting cases and deciding on the number of cases is dependent on the discretionary judgement of the researcher. For this reason, the replication logic as opposed to a sampling logic serves as a guide in deciding on the number of cases that will be suitable for a study (Yin, 2014). In experimental or survey research, the sampling logic is applied in order to determine the level of occurrence of a phenomenon and this is usually calculated with a set of statistical measures that determine the sample size sufficient for testing. Where a case study is concerned, if both the phenomenon of interest and the context were to be considered, one would end up with a very large number of relevant variables and consequently a large sample of cases that will only allow superficial investigations of cases (Yin, 2014). In addition, since the goal of a case study is not to test for the prevalence of a phenomenon, applying a sampling logic will be misguided. For these reasons, Yin (2014) suggests that when selecting cases, the researcher should carefully select based on which cases can yield either literal or theoretical replications. That is, which cases can predict similarities across cases or predict contrasting findings based on a set of *a priori* theoretical explanations. In this study the literal replication logic was used and according to Yin (2014), this can involve two cases or more, depending on the theoretical interests and the desired degree of certainty. In instances where two or more cases are used, there will be a higher chance of providing greater support for the findings. In this study, there are three cases

and within each case are two embedded units of analysis (the governing body and the women members). This amount of cases can allow for literal replication explanations and testing. The following steps highlight how the researcher arrived at three cases for this study:

- Before deciding on the number of cases, the researcher had to determine how to select the cases. Again, the literal replication logic served as the premise for selection of the cases; however, the intensity, criterion and typical case selection strategies proposed by Pare (2004) were followed.
- An intensity strategy ensures that the cases selected can provide intense rich information about the phenomenon (Pare, 2004). In this study, this involved selecting FWBNs that showed evidence of some of the major constructs in the conceptual model (e.g. use of ICTs, actors, governance structure).
- A criterion selection strategy involves selecting cases with a set of self-pre-determined criteria that are based on expected outcomes, theoretical definitions and the phenomenon of interest (Pare, 2004). The baseline criterion for selecting a case for this study was that they had to be using ICTs for their network operations and activities and, if possible, it had to be an integral part of the network's structure. This criterion was crucial to understanding the phenomenon under investigation and achieving the main research objective. In addition to this, the network had to be formal following the definitions of Huang et al. (2013) and Bonner & Sponner (2011).
- In order to apply the aforementioned strategies, the researcher had to find a list, a database, or a source containing information about FWBNs in the countries of interest. For each country, there were no specific lists of FWBNs, the researcher only found references to lists of non-profit organisations. Obtaining lists of FWBNs proved futile, so the google search engine was used instead to try to find sources with the search term "list of women networks in **country name*"*. (Figure 4.3 below shows a summary of search terms, specific returned results and information retrieved). For South Africa, the researcher browsed the web directories of associations and professional bodies (Distel, Expat, Western Cape Gov) but none returned results on women business networks or FWBNs. This proved to be the same for Nigeria (National Bureau of Statistics) and Kenya. The following search terms were then used on google: 'Women networks', 'women business networks', 'women business associations', and 'women associations'. The names of the particular countries were also added to these

individual search terms in order to obtain results for the particular countries (e.g. 'women networks in Nigeria').

- The various searches returned results either of lists compiled by individual online sources, or the website information of some of the FWBNs. In other to ensure adequate saturation, the first few pages returned were examined for lists or names and only after there was no longer relevant or new information did this researcher cease here search through the pages. Some of the lists that were returned had information on women's groups and women's interest organisations in general, but not women business networks. During the iterative process for the different search terms and the three countries, the networks whose website addresses had come up during the different search times were noted. The names that were repeated in lists created by companies – such as Business Partners Ltd. – who happen to be leading investors in women businesses in South Africa or world organisations interested in women's development (e.g. The Way Women Work network) were also noted.
- At the end of this process, there was a list of five distinctive names for each country, based on the search results specified above and also, because their information was readily available on their websites. Furthermore, by having functional websites, they fulfilled the criterion of using ICTs for their network operations.

An email detailing the objective of the study and requesting participation was sent to the fifteen networks whose contacts were found on the internet through the google search process outlined above. For Nigeria, three networks responded with interest, in Kenya, three responded, and in South Africa, only two responded. Due to the anonymity clause, the names of these networks are confidential. After some correspondence, one of the networks in Nigeria and South Africa respectively excused themselves from further participation. The remaining two cases in Nigeria and one from Kenya were excluded from the final set of cases for the study, due to the inability of the networks to fully partake in the data collection process. This left three cases in total for this study.

Search Term(s)	Specific Results/Sources Returned by Country		Information Obtained
'List of women networks in *country name*'		http://www.nigeriainfonet.com/Directory/associations__organizations5.htm	
		http://www.nnngo.org/?s=women+business	List of various NGOs
	Nigeria	http://www.distel.ca/womlist/countries/nigeria.html	
	Kenya	http://www.distel.ca/womlist/countries/kenyaa.html	List on women interest organisations only
		http://www.distel.ca/womlist/countries/southafrica.html	
	South Africa	https://www.westerncape.gov.za/general-publication/web-directory-professional-bodies-and-associations-western-cape	List on different develpmental organisations
Other search terms 'Women networks in *country name*', 'women business networks in *country name*', 'women business associations in *country name*', and 'women associations in *country name*'	Kenya	http://www.opinionkenya.com/public/index.php?mntr=pal&o=962&b=1329	List on women groups and networks in general but had some information on WBNs also
		http://www.femcomcomesa.org/?page_id=124	List on women groups and networks in general but had some information on WBNs also
		http://softkenya.com/kenya/women-in-kenya-organisations/	List on women groups and networks in general but had some information on WBNs also
		http://www.ifc.org/wps/wcm/connect/e00d6c0048855a36857cd76a6515bb18/Voices+of+Women+Entrepreneurs+in+Kenya.pdf?MOD=AJPERES	List on women groups and networks in general but had some information on WBNs also
	South Africa	http://www.expatcapetown.com/business-associations.html	List on few women business networks/associations
		http://www.businesspartners.co.za/knowledge-hub/women-in-business-fund/posts/business-organisations-and-associations-for-women-4223/	
		http://mg.co.za/article/2012-09-11-networking-for-women-in-business	
	Nigeria	http://www.bpw-nigeria.org/CIPE%202.html	List on few women business networks/associations
		https://awpnetwork.com/2015/10/13/14-leading-organizations-changing-the-lives-of-nigerian-women-and-girls/	
		http://www.nigerianstat.gov.ng/library#content5-6	
		http://thewaywomenwork.com/resources/	

Figure 4.3: Summary of search terms, specific returned results and information retrieved

4.3.3.4 Informant sampling: Following the selection of a case or cases, a researcher needs to decide who the informant within the case should be (Patton, 2002). This is often guided by the research questions, objectives and theoretical concepts. This step is crucial to a case study research as the responses from an informant can determine how much or how little of the phenomenon can be known (Yin, 2014). For this study, the purposive and maximum variation sampling strategies were applied (Pare, 2004). The purposive sampling was used in selecting the informant(s) from the management teams for the interviews. This was because the understanding of the network structure (from a governance point) and the network's operation is very important to the study and this information was to be derived from a top-level member of the management team. Maximum variation sampling was applied to the women members (for administering the questionnaires) in order to obtain a broad perspective and range of information that would provide more insight into and understanding of the phenomenon.

4.3.3.5 Case study protocol: A case study protocol is more than just the research instrument; it includes vital information about the mode and level of inquiry in each case. The protocol is particularly important for a multiple case design to ensure consistency across each case (Pare, 2004; Yin, 2014). The case study protocol is developed as a guide for all the instances of observations in a case that will be carried out by the researcher. It is also developed in order to provide an overview of the objectives and expected evidence of the study (Yin, 2014). A copy of the case study protocol developed for this study is presented in the Appendices (see 9.10 – Appendix 10). It outlines the research objectives, field procedures, characteristics of the target informants and networks, and guidelines to the interview questions.

4.3.3.6 Data collection methods and research instruments: Case study research is not limited to specific data collection methods or sources of evidence; however, the common types are interviews, direct observation, participant observation, documentation, archives and physical artifacts; and in many cases quantitative methods such as questionnaires have also been used (Benbasat et al., 1987; Lee, 1989; Pare, 2004; Yin, 2014). According to Yin (2014), the purpose of the research and the type of case design should guide the choice of methods. For the present research, four sources of evidence or data collection methods were chosen (interviews, participant observation, questionnaires and documentation). This was partly to ensure construct validity and partly because of the relevance of these methods to the study and the researcher's knowledge of them. The use of multiple methods helps to corroborate the

findings and triangulate the data collected (Oates, 2006). In case study research, the data collection process is iterative. That is, it can continue till theoretical saturation is reached (till no additional data or evidence will contribute anything new to the study) (Pare, 2004). However, this is highly dependent on the type of study/phenomenon, the theoretical concepts and the judgement of the researcher (Yin, 2014). Data collection for this study started in March 2016 and ended in January 2017. Each data collection method and the way it was administered is discussed below. A summary of the constructs/concepts in this study and the data source that was used to gain evidence for each is presented in the Appendices (see 9.7 – Appendix 7).

4.3.3.6.1 Interviews: Interviews are the most commonly used method in case study research. They help to gain targeted insight about a topic from respondents, according to their views and experiences (Kaplan and Maxwell, 1994). Interviews in case study research tend to be guided conversations more than structured queries (Yin, 2014). A case study research could involve semi-structured or unstructured (in-depth) interviews. For this research, semi-structured interviews were carried out, because the researcher has some knowledge of the phenomenon and has guidance from literature and the theoretical concepts (see Appendices, 9.4 – Appendix 4). In addition, these type of interviews allow flexibility in the nature or order of questions or even for additional questions at the point of enquiry (Yin, 2014). In this way the researcher is afforded the opportunity to probe new useful information further and increase the understanding of a topic. However, interviews have certain weaknesses. They could present bias due to the way questions are posed, or the inclination of the respondent towards telling what they assume the researcher wants to hear (Pare, 2004). These limitations were addressed in this study the following way. The researcher ensured that a copy of the protocol was read and rehearsed before each interview. Also, the researcher started each interview with light questions and ensured a friendly interaction and atmosphere. In order to address a recall bias, the interviews were recorded using a recording device and this only happened after consent was obtained from the respondent (see Appendices 9.2 – Appendix 2). Field notes were also taken and key points were jotted down.

Selecting the interviewees, was done using two sampling methods as explained above. Interviews were conducted mostly with certain members of the management team. The one-on-one interviews were conducted in the respondents' offices, or in a quiet space or room. Other interviews were conducted via skype and Whatsapp. The skype and Whatsapp

interviews were also done in quiet environments, and for extra caution the researcher paid special attention to the intonation of the interviewees in order to detect any misunderstanding, hesitation or reluctance in answering a question. For instance, during one of the skype interviews, the respondent pause for a long time after a question was asked, and made an unclear sound. The researcher decided to reword the question and asked it again and this time a quick response, starting with "Oh", was given. This indicated that the respondent might not have understood the question at first. Each interview was conducted with the set of questions that had been prepared with guidance from the available literature and the conceptual model (see list of particular studies stated in the questionnaire section below). Generally speaking, the length of an interview could be short or long; this is usually determined by the amount of questions and the type of responses given (Yin, 2014). There are no specific rules as to how long or how short an interview should be (Yin, 2014). In this study, each interview lasted for an average of 30 to 60 minutes, depending on the responses of the informants. A total of five interviews were conducted. A summary of the interviews and corresponding cases is provided in the Appendices (see 9.8 – Appendix 8)

4.3.3.6.2 Documentation (and website analysis): Documentations serve as useful sources of evidence for corroboration and augmentation of other sources (Pare, 2004; Yin, 2014). They could be in the form of letters, memos, reports, or any document that is important to the investigation. They help to provide specific information or verify spelling and titles that may have been mentioned in the course of an interview. Caution is advised when reviewing documents, because they may be biased, as they would have been prepared outside the objective or purpose of the research (Yin, 2014). Hence, they serve as secondary sources of evidence, rather than primary sources. For this study, documentation as a source of evidence was important in order to trace some past events and records and also to confirm some of the information that may have been gathered through interviews. After each interview, a copy of related documents, such as annual reports, policy/terms and condition documents and quarterly reports were requested; in some cases they had already been referred to by the respondents wishing to provide further information. Such documents were retrieved to examine what the interviewee referred to. The networks' websites were also reviewed to check whether there was any valuable information about the activities and operations of the network that may not have been mentioned during the interviews, but could help in understanding the networks.

4.3.3.6.3 Participant Observation: This method involves the collection of data as an active observer and the researcher could assume different roles (Iacono et al., 2009). The strength of this method lies in the researcher being able to observe real-time events and interactions of a setting from an insider point of view (Iacono et al., 2009). It also offers the opportunity of accessing groups or individuals that one would normally not have any or only constrained access to (Yin, 2014). For the present study, this method of data collection was deemed important in order to observe how a typical network meeting proceeds and the types of interactions and relationships that occur amongst actors. This method was applied in two of the three cases. This was because these were the cases which had meetings at the scheduled time for data collection. The limitation/weakness of this method is that it presents certain biases. A potential bias could be as a result of the observer/researcher's inability to concentrate on being merely an observer, and assuming different roles (Iacono et al., 2009). In addition, an observer could deviate from the phenomenon and be a supporter of whatever the subjects are championing at the time (Yin, 2014). In light of these limitations, the researcher ensured that they were not carried away with some of the interesting topics that were being discussed at the meetings. The researcher took note of the different actors, the topics discussed, the interactions and other interesting events – as a researcher and not just another member of the network. In addition, because the researcher was admitted as if she were just another member of the network, she was not required to assume any special role in the network; thus, the observer status could easily be maintained. As a further precaution, the researcher asked to not be introduced to the group of members till the end of the observed meetings; in this way, any possible influence due to the researcher's presence as an observer was mitigated. Field notes were taken and recorded during and after each meeting.

4.3.3.6.4 Questionnaires: Questionnaires are useful for survey data. They contain a set of questions that have been prepared to obtain standardized responses from participants (Bhattacherjee, 2012). They are useful for capturing a wide variety of data that cannot be observed directly. Questionnaires help to capture data in instances where the number in a population is large and as a result the population cannot be observed directly (Bhattacherjee, 2012). The questionnaire developed for this study was administered to the women members in particular, due to their large number (see Appendices, 9.3 – Appendix 3). The questionnaire covered information about the actors, the relationships, the flow of resources, the use of ICTs and the derived benefits. This questionnaire was developed with guidance from past studies that have observed similar phenomena or certain concepts relevant to this study. Those

studies are: Bogaards et al., 2011; McDade and Spring, 2005; Sharafizad, 2014; Mitchelmore and Rowley, 2013; Dawson et al., 2011; Farr-Wharton and Brunetto, 2007; De Lange et al., 2004; Lockett et al., 2014; UNCTAD, 2014; Khayesi et al., 2014; Greve and Salaff, 2003; Thaden and Rotolo, 2009; Haythornthwaite, 1996; Borgatti and Halgin, 2011. It was necessary to develop a questionnaire, rather than adopt one from a previous study, because of the newness and exploratory nature of the current phenomenon. In addition, while the other studies mentioned one or some of the concepts, none had measured all the concepts/constructs in the present study in entirety, or in the FWBN/sub-Saharan Africa context. There was thus the need for a different and new questionnaire. The questionnaire involved both open-ended and closed-ended questions. The closed-ended questions were mostly measured on a Likert scale of 1 to 5 (where 1 = Strongly disagree and 5 = Strongly agree; or 1 = Not useful and 5 = Extremely useful; or 1 = Never and 5 = A few times a year). In other instances, they were measured using nominal and other ordinal scales. Below is a detail of each section and what it measured. A summary of the constructs, items measured and sources are presented in the Appendices (see 9.6 – Appendix 6).

- Section A: This covered demographics of the members, such as the position of the respondent in the firm, the age of the respondent, the marital status, the business sector, the age of business, number of employees and the educational qualification.
- Section B: This measured the Networking History/Motivation of the members with 4 items. Some were measured using a Likert scale of 1 – 5 (where Strongly disagree = 1, Disagree = 2, Fairly Agree = 3, Agree = 4, Strongly Agree = 5) and others were dichotomous and open-ended respectively
- Section C: This measured the Networking behaviour and activity of the members using a Likert scale of 1 – 5 for the first set of questions (where Strongly disagree = 1, Disagree = 2, Fairly Agree = 3, Agree = 4, Strongly Agree = 5) and a nominal scale for the last set of questions
- Section D: This measured the benefits of networking and contribution of networks using a Likert scale of 1 – 5 (where Strongly disagree = 1, Disagree = 2, Fairly Agree = 3, Agree = 4, Strongly Agree = 5) and the challenges the women face with networking was captured with an open-ended question.
- Section E: This measured the use of ICTs with four major items. The first two questions obtained general information on the number of years in which phones had been used and the type of phone used. The third question measured the frequency of usefulness

of ICTs for networking activities, using a Likert scale of 1 – 5 (where 1 = Not useful, 2 = Slightly useful, 3 = Moderately Useful, 4 = Very Useful and 5 = Extremely useful). Question 4 measured interest in learning more about ICTs.

- Section F: This measured the position of the members in the network using a nominal scale
- Section G: This measured the relationships formed within the network using a nominal scale.
- Section H: This measured the role of the management team and the interaction of the members with them. The first two questions were measured using a Likert scale of 1 – 5 (where 1 = Never, 2 = Daily, 3 = A few times a week, 4 = A few times a month and 5 = A few times a year). The last two questions were measured using open-ended questions.

Questionnaires are also open to certain biases such as sampling and non-response bias (Bhattacherjee, 2012). In order to address these biases in the current study, the sampling technique applied was random to ensure a wide and fair representation of the networks. Access to the members was usually through the management team due to membership information/data clauses and policies. In order to also garner as many responses as possible, the questionnaires were administered in person plus via an online platform called qualtrics. Each questionnaire was accompanied by a covering letter (see Appendices, 9.1 – Appendix 1) detailing the objective of the research and stating that the study was voluntary and would be treated anonymously.

4.3.3.7 Data Analysis

The data analysis of this research was carried out in two phases. The first phase involved qualitative analysis of the qualitative data and the second phase involved the quantitative analysis. The qualitative analysis involved the qualitative data collected for this study and was conducted using thematic analysis. Thematic analysis involves a systematic identification of patterns across a data set, which is then organised and analysed in a way that offers insight into the meanings and experiences within data (Miles and Huberman 1984; Braun and Clarke, 2006). The quantitative analysis involved testing for reliability of the quantitative data. The qualitative data was transformed to quantitative data for inferential purposes through quantitisation. Lastly, the entire quantitiative data was then tested using cluster analysis in

order to test the research model and derive configurations of the networks in this study. Cluster analysis is a statistical technique used to assign the different cases in a study to clusters through observed relationship amongst variables (Ketchen et al., 1997).
Details of the analysis procedures and results are discussed in subsequent chapters.

4.3.4 Case Study Critique and Limitations

Case study research has been critiqued and several concerns have been raised as potential limitations to the method. However, case study theorists have proposed several ways to address these limitations and concerns (Benbasat et al., 1987; Lee, 1989; Flyvbjerg, 2006; Yin, 2014). These concerns are classified into four major aspects, namely – generalisation, rigor, bias, validity and reliability. In order to account for these concerns and limitations in my study the following recommended tactics were applied at various stages of my research.

4.3.4.1 Addressing generalisation

Firstly, to address the issue of generalisation, Yin (2014) suggests that a researcher can make analytical generalisations as opposed to statistical generalisations such as other forms of research (e.g. experimental or survey research) would allow. Lee (1989) explains that generalisability in case research is not so much about the application of a situation to other situations, but rather the test of a theory or set of theoretical concepts to an empirical situation. Hence, embarking on an analytical generalisation will involve formulating propositions that are based on expanding or advancing a set of theoretical concepts, as opposed to making inferences about a population based on the data from a sample of that population (Flyvbjerg, 2006; Yin, 2014). In other words, generalisations in case study research cannot be made from a "sampling" perspective, but rather from a conceptual level involving the application of theoretical concepts to a given situation and predicting that for other, similar situations. Yin (2014) further suggests that having multiple cases can help increase the chances of generalisation, but cautions that the purpose of a case study research is not solely to generalise, but rather to shed light on the distinctiveness of a situation based on a set of theoretical concepts. In this study, multiple cases were selected and a set of theoretical propositions that can apply in all cases were formulated. These propositions were based on theoretical concepts derived from the literature as shown in Chapter 3.

4.3.4.2 Addressing Rigor

In order to address the issue of rigor, the guidelines proposed by Benbasat et al. (1987) and Yin (2014) were followed. Unlike other methods that have a set of procedures and techniques that are used to measure or test for rigor, the case study method does not have a particular set of procedures, but rigor is judged according to the tactics applied to ensure validity and reliability. In addition, Yin (2014) suggests that a case study research should have a detailed description, motivation, and careful selection and execution of the various methods and techniques applied. For this reason, the various methods and techniques applied in this study were discussed in detail above.

4.3.4.3 Addressing Bias

Case study research is very prone to bias, due to the heavy involvement of the researcher with the respondents (Flyvbjerg, 2006). Also, the interpretations of the evidences are very reliant on the judgement and knowledge of the researcher. However, to address possible bias, Yin (2014) suggests a thorough documentation of the procedures applied in the study. Every step, each bit of evidence and each process should be accounted for and made as operational as possible. For every step and process taken in this research, the researcher ensured that they were properly and accurately documented. These steps and processes were incorporated into the discussions in the preceding sections.

4.3.4.4 Validity and Reliability

To ensure the validity and reliability of a case study research, there are four tests that are recommended (Bhattacherjee, 2012). They are construct validity, internal validity, external validity and reliability tests. Aside from the internal validity tests, the other tests are carried out at the design and data collection stages of a case study research (Yin, 2014).

Construct validity tests ensure that the set of concepts in a study are sufficiently measured and not just tested based on the judgement of the researcher (Bhattacherjee, 2012; Yin, 2014). Three ways in which to ensure construct validity in case study research are: through using

multiple sources of evidence; ensuring a chain of evidence; and having the draft report of the case study reviewed by the informants (Yin, 2014). For this study, the first two were applied. Data was collected using four known sources in case study research (that is, interviews, documentation, participant observation and questionnaires – these methods have been discussed in detail above). By collecting data through multiple sources, the researcher ensured that the various pieces of evidence obtained from the data could be corroborated or triangulated in the different sources. This approach also strengthens the measures and provides strong support for the established evidence when conducting the data analysis.

External validity tests are carried out to check that the findings of the study can be generalised to other studies (Bhattacherjee, 2012; Yin, 2014). As explained earlier, this refers to the use of analytical modes of generalisation, which involves formulating propositions that can be applied to similar situations. Following Yin's (2014) suggestion, propositions were developed in this study as way to test the assumptions guiding this research across the different cases.

Reliability tests are carried out to check that if the same study be carried out using the same procedures and given the same situation at a later time by another researcher, the same results will be obtained (Bhattacherjee, 2012; Yin, 2014). This will involve proper documentation of the steps and procedures applied in a study as explained above. For this reason, a case study protocol was developed for the data collection process as recommended by Yin (2014). In addition, a database of all the data collected was created and organised using a chosen referencing and tagging style. The researcher also ensured that careful considerations were made for the data collection process. All the steps followed were also noted which resulted in details of the research process as presented above.

4.4 ETHICAL CONSIDERATIONS

For every research project, a researcher has to be aware of and take into account the integrity and value concerns related to the research – especially where data collection and reporting of findings are concerned (Neuman, 1994; Bhattacherjee, 2012). In order to ensure that the necessary ethical issues were considered and adhered to in this study, the research instrument and overall research design was sent to the ethics committee of the University of Cape Town

for review and permission to conduct the study (see 9.5 – Appendix 5). This ensured that the researcher accounted for the anonymity and protection of the participants. In addition to the instructions and guidelines provided by the university, the terms and conditions posed by relevant directories, databases and the networks were adhered to. This involved protecting the identity of the participants and ensuring that no participant was cajoled or forced to participate in the research. This also meant that the information provided by the networks and individual participants were used for the sole purpose of data collection and the research. Participation in the study was voluntary and all responses were treated with anonymity. The researcher ensured that discretion was exercised during the course of the research.

4.5 SUMMARY AND CONCLUSION OF CHAPTER

This chapter has explained the research methodology and research design. The various methods and approaches adopted suggested themselves as a result of the use of the case study method to conduct the research. The chapter discussed the research philosophy in terms of the ontological, epistemological and methodological assumptions. The research design and methods adopted were then presented, starting with a discussion on the case study method as the research strategy. The adoption of a mixed methods approach was discussed. The application of the case study method in terms of the unit of analysis, case design and selection, theory development, replication logic, case study protocol, validity and reliability tests, data triangulation, informant sampling, data collection methods and data analysis approach were outlined and discussed in detail. The chapter concluded by examining the ethical considerations of the study. The next chapter presents the qualitative data analysis for the study.

CHAPTER 5:

QUALITATIVE DATA ANALYSES AND FINDINGS – WITHIN CASE AND WHOLE CASE ANALYSIS

"Not everything that can be counted counts, and not everything that counts can be counted." - William Bruce Cameron

5.1 INTRODUCTION

This chapter presents details of the qualitative data analysis, results and findings for this study (see figure 5.1 for the chapter overview). The major purpose of the qualitative part of this study was to acquire in-depth understanding of the structure of eFWBNs with particular focus on the nature of governance, ICT use and external support as shown in the research model. The analysis also examined how these variables influenced or interplayed with the other core elements in a network. Using quantitative methods alone would have provided a limited view of these areas, due to the newness and exploratory nature of the study. Also, with case study method being the research strategy, gaining a rich understanding of the cases was important – the work focused on an area in which qualitative methods have strengths over quantitative methods. The qualitative aspect of the research focused on the leadership of each case (network) as the key informants. Documents, website analysis and participant observation served as secondary sources of evidence to augment the interview data and what was reported by the informants. The use of thematic analysis resulted in themes that explained each construct and highlighted aspects that showed the evidence of interplay amongst the elements in an eFWBN.

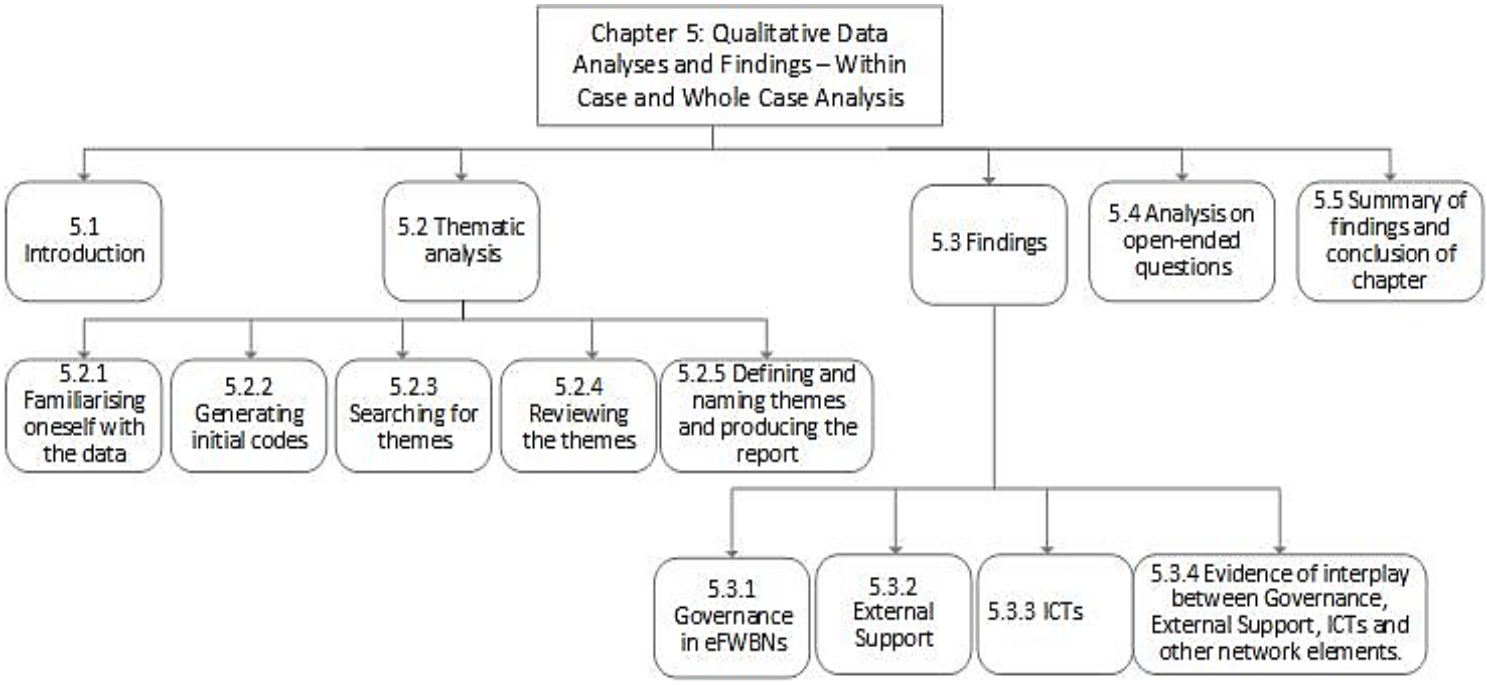

Figure 5.1: Overview of Chapter 5

The following section presents details of the thematic analysis carried out on the qualitative data.

5.2 THEMATIC ANALYSIS

As explained earlier in the previous chapter, thematic analysis involves a systematic identification of patterns across a data set, which is then organised and analysed in a way that offers insight into the meanings and experiences within data (Miles and Huberman 1984; Braun and Clarke, 2006). Ultimately, thematic analysis provides interpretation in the form of themes of various aspects of a research topic and helps to make sense of the commonalities found about the topic within a data set. Thematic analysis can be conducted using two approaches, the inductive or theory-driven approach (Braun and Clarke, 2006). The inductive approach is driven by the data and the themes and codes derived are highly matched to the content of the data (Patton, 1990). With the theory-driven approach the researcher employs a set of theoretical concepts and ideas or topics that are used to code and interpret the data. Hence, the focus of the theory-driven approach is solely based on the research questions and theoretical model guiding the research, not merely the content of the data. For this study, the deductive approach was mainly applied. However, as Braun and Clarke (2012) pointed out, it is not entirely possible to adopt one pure approach without some elements of the other. In other words, while applying the deductive approach, elements of the inductive approach could be employed in order to ensure sufficient and in-depth coverage and interpretation of the data (Dubois and Gadde, 2002). For this reason the thematic analysis had elements of an abductive approach, but it was principally theory-driven (a deductive approach). Braun and Clarke (2006, 2012) offer a six-step guideline on how to conduct thematic analysis as shown in Table 5.1. These guidelines were followed in this study and details of how each step was carried out is discussed in the following sections.

Table 5.1: Phases of thematic analysis (Braun and Clarke, 2006, 87)

PHASE	ACTION	DESCRIPTION OF THE PROCESS
1	Familiarsing yourself with your data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas
2	Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code
3	Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme
4	Reviewing themes and Relationships	Checking if the themes work in relation to the coded extracts and the entire data set
5	Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells
6	Producing the report	Selection of vivid, compelling extract examples, analysis of selected extracts, relating back of the analysis to the research question and literature

5.2.1 Familiarising oneself with the data

This phase involves a repeated reading of data in an active, analytical and critical way. By doing so, one is immersed in the data and starts to uncover and note certain things that can be relevant to the research topic or questions. Braun and Clarke (2012) suggest that it is important to know the data set intimately and reading transcripts more than once or listening to verbal data more than once during the process of transcription ensures that is achieved. In

order to be immersed in the data and familiarise oneself with the content, the verbal data in form of audiotape recordings were listened to and transcribed verbatim with consideration for contextual information and phonic exclamations (McLellan et al., 2003). After each interview was transcribed and saved on MS Word, the transcripts were read and reread to identify interesting comments and information that was present in the data in relation to the constructs and research questions. The process of reading and rereading was also done for the documents, website information and notes from the participant observation. Some similarities and differences across cases were identified and noted and comments were made using sticky notes or the comments function in MS word for documents. A screenshot illustrating what the aforementioned process looked like is provided in the Appendices (see 9.12 – Appendix 12). After this process, all qualitative data was loaded into the CAQDAS software Atlas.ti for further analysis.

5.2.2 Generating initial codes

The process of coding is a way of identifying aspects of the raw data that is interesting or relevant to the researcher. These aspects are then labelled, summarised and organise data into meaningful groups called codes. It can be 'data-driven' (data dependent) or 'theory-driven' (dependent on the specific questions or constructs that the researcher wishes to code around).

Before the coding process started, a code book (see Appendices, 9.13 – Appendix 13) was created based on the constructs in the theoretical model. The code book is developed as a way of ensuring a systematic coverage of all aspects of the research that are important or relevant to the researcher (Creswell, 2009). It includes a high-level definition of each construct and an empirical definition to guide the researcher as to what to look out for in the data and how it might appear in the data. While bearing in mind the definitions in the code book, the initial stage of coding was done 'freely'. In other words, the data was coded for interesting aspects that related to the constructs or research questions without being particular about the label reflecting the constructs or the definitions in the code book. Braun and Clarke (2012) recommend this approach as a way to ensure that all aspects of the data that are potentially relevant are included during the course of analysis.

Eisenhardt (1989) suggests that when conducting analysis in a case study research project, a case by case or within case analysis should be carried out first. This approach ensures that the

researcher has an intimate and in-depth understanding of the patterns in each case before seeking to generalise across cases or make cross-case analysis (Eisenhardt, 1989; Voss, Tsikriktsis and Frohlich, 2002). For this study, the coding process was done case by case, that is, the entire data collected for, say, case 1 in Kenya was first analysed and coded before proceeding to the entire data collected for case 2 in South Africa. Within each case, the management interview transcripts were the first point of analysis, then the documents and website analysis followed. Finally, the notes from the participant observation and field notes were then reviewed and analysed. In most cases the data extracts in the secondary data items served as support or provided further insight into what had been coded in the management interview transcript. For instance, in the management interview transcript a code was assigned to a data point where the goal of the network had been touched on, and while reviewing the documents, sections where the goal of the network was stated was coded with the same code label.

The 'free coding' stage resulted in one hundred and twenty-one codes. Instances in the data that seemed relevant or interesting in relation to the study, constructs and research questions were coded. Table 5.2 shows examples of data extracts in a transcript that were 'freely' coded and the nature of coding.

Table 5.2: Data extract with the 'free' codes applied and the data item sources

DATA SOURCE	DATA EXTRACT	CODE(S)
Management Transcript (Case 1)	But for them because we don't do the same programmes as the associations…like you'll never find us doing a thing on agri-business because we let the association for women in agri-business do that. So for us it's to encourage them to have these activities for their members because they have to show that they are active…even for the members because the member pay subscriptions so you can't have people paying subscriptions and then you're not building their capabilities. So for us we encourage the individual women in our networks to attend their activities and to join their associations because we don't charge our individual women subscriptions. Yea…so that is how we build their capacities…we help them market their programmes, invite members to their programmes and such.	[Active members benefit more from partner based programmes or other network-level resources] [Distribution of resources like capacity building is based on programmes/partners]
Documentation obtained from Website (Case 2)	Our committee is nominated by the membership and voted for every second year.	[Nomination of leadership by membership]
Observation through Live Facebook Video (Case 3)	Remember, Thursdays is when we get to showcase and advertise on the WhatsApp group (Chairperson, eFWBN 3)	[Use of Whatsapp to conect and share information and resources]

5.2.3 Searching for themes

This phase of the analysis involves sorting the different codes into potential themes and identifying codes that can combine to form an overarching theme (Crabtree & Miller, 1999). This process helps to examine the relationships between codes, the themes and the constructs of importance to the study and how all of these can tell a coherent story about the data in relation to the research questions (Braun and Clarke, 2006). It is possible at this

stage to find themes that do not necessarily fit into the scope of focus of the study or explain any of the constructs. In such cases, Braun and Clarke (2006) suggest that themes be saved and categorised as miscellaneous till the analysis phase is complete. This is because at this stage, it may not be entirely evident what will be useful or not in the long run to explain some of the findings.

The process of searching for themes was done across all cases as opposed to the case by case approach followed when generating initial codes. The one hundred and twenty-one codes created across the entire data set with related quotes were extracted from Atlas.ti using the code and quotes export feature and saved in MS word format. Repeated codes (that is, codes that carried the same meaning, but were labelled differently) were merged or noted in order not to lose the quotes or context assigned to them. Bearing in mind the research questions, the codes were then reviewed and linked to the concepts/constructs that were present in the theoretical model and the descriptions and definitions ascribed to them. For instance, the initial code *'No physical office - all is done online*' was linked to the theme *'Type of Administration'* which describes and falls under the construct *'Governance*'. A code was deemed fit to be linked to a construct or theme if it fitted the description or definition of the construct or theme. The quotes linked to each code also helped in deducing what code can be assigned to a theme and construct. This process was iterative and eventually resulted in narrowing the one hundred and twenty-one codes into twenty-nine themes. Two of these themes identified, covered the challenges faced by the networks and the formation and growth of the network respectively; neither of them fitted into any of the constructs, but were categorised under 'miscellaneous' rather than discarded. This is because the researcher believed the information they conveyed could provide background and insight into some of the findings regarding eFBNWs. Table 5.3 reflects how some of the codes were grouped and linked to a theme and construct.

Table 5.3: Code groupings in relation to constructs and initial themes

CONSTRUCT	DESCRIPTION/ EMPIRICAL DESCRIPTION	GROUPING CODE (THEME)	INITIAL 'FREE' CODES	DATA EXTRACT/SOURCE
GOVERNANCE	Management Team's account of the formation, management, coordination and sustenance of the network activities and network and ways by which all these are put together to achieve the network goals.	Leadership type and roles	**Board members caters to serious needs and give advice**	Because when we are developing programmes it has to come from us so we go from developing proposals to fund raising to implementing the programmes…so for the board it's mostly appearances when we go for serious meetings…for fund raising so we take them along and they also give us ideas on what to do and how to approach certain programmes (Management, Case 1)
			Board members/Committee members are volunteers - they dont get paid	Mainly because most of us on the committee have our own businesses or are employed by a full-time company. Since she is the one who gets paid for her time she's the one that handles most of the time consuming communication. (Management, Case 2)
			Comittee deals with coordination and management of activities	We do have the chairperson and vice chairperson who are elected for a period of two years by the membership body and we then have in addition to them a committee of seven women. The committee kind of makes sure that all of the meetings run on time, that all of the support functions necessary for the organisation gets done. All the administration is done by the administrator.(Management, Case 2; Committee page on Website, Case 2)
			Membership elects Committee	
			Temporary leadership but same roles	
			Permanent leadership since time of network formation	Our Leadership (Leadership page on Website, Case 1)
		Type of Administration	**One paid employee and part of membership**	The way that the organisation is structured we only have one permanent paid employee which is the administrator and she is the only kind of constant within the organisation. (Management, Case 2)
			No physical office - all is done online and electronically	[Observation notes for Case 3]
			Secretariat runs most of the operations	Because when we are developing programmes it has to come from us (the secretariat)...so we go from developing proposals to fund raising to implementing the programmes (Management, Case 1)

5.2.4 Reviewing the themes

Braun and Clarke (2006, 2012) explain that the process of reviewing themes involves checking the initial candidate themes for the purpose of refinement and quality checking. The developing themes are examined to see that (1) the themes match the collated extracts and form a coherent pattern; and (2) the themes capture or reflect the meanings in the entire data set or some aspects of it. Also, in the case of a deductive or theory-driven approach, the themes are expected to provide meanings or useful explanations to the constructs or phenomenon (Fereday and Muir-Cochrane, 2006).

The previous phase resulted in twenty-nine themes. The themes were reviewed to check that they captured the extracted data and were further refined to create distinctions amongst the themes. For instance, 'network operation' (which described how the networks carry out certain activities or functions), or 'type of administration' (which described how the administrative duties are carried out and from what type of set-up) were seen to tie in to 'network leadership and management' (which described the leadership of the network). These themes were deemed to belong together, because, firstly, they were conveying explanation for the same concept (the way governance is done or executed) and secondly, because the data assigned to them was similar or repeated. Hence these themes were grouped together to form an overarching theme, 'Mode of Governance'. From a list of twenty-nine themes, the themes were refined to thirteen themes and grouped under each construct they were describing or explaining, as illustrated in the previous section. Arriving at these themes was not a straightforward process, rather it was iterative with a constant back and forth between the data, theoretical framework and research questions, to keep checking for coherence, sufficient evidence, similarities and overlaps (Dubois and Gabbe, 2002). Upon further review, the thirteen themes were grouped and renamed into six distinct overarching themes, with the thirteen themes serving as sub-categories that were used later for the cluster analysis. However, for the purpose of reporting the qualitative findings, the six overarching themes are the point of focus and discussion. Table 5.4 illustrates the result of the review and refinement process and the link between the construct, final themes, sub-themes and data.

Table 5.4: Reviewed themes and sub-themes

CONSTRUCT	FINAL (OVERARCHING) THEMES	DESCRIPTION	SUB-THEME(S)	DATA EXTRACT/SOURCE(S)
GOVERNANCE	MODE OF GOVERNANCE	This covers the leadership of the network with focus on how it is set-up, how decisions are made and who is involved, how network activities, network adminstration and network-level issues are managed and coordinated.	Leadership Commission and Type	We do have the chairperson and vice chairperson who are elected for a period of two years by the membership body and we then have in addition to them a committee of seven women. The committee kind of makes sure that all of the meetings run on time, that all of the support functions necessary for the organisation gets done. All the administration is done by the administrator.(Management, Case 2; Committee page on Website, Case 2)
			Network Operation	Because when we are developing programmes it has to come from us so we go from developing proposals to fund raising to implementing the programmes…so for the board it's mostly appearances when we go for serious meetings…for fund raising so we take them along and they also give us ideas on what to do and how to approach certain programmes (Management, Case 1)
			Type of Administration	The way that the organisation is structured we only have one permanent paid employee which is the administrator and she is the only kind of constant within the organisation. (Management, Case 2)
	RESOURCE ACQUISITION AND CONTROL	This covers how resources are acquired or sourced for by the management /leadership and the nature or type of resources involved; the distribution of these resources, and the management of the resources within the network	Ensures seeking and acquiring resources	We have also partnered with educational institutions because some of them have programmes for women entrepreneurs...like mini MBAs sort of because we are also encouraging women to further their education. (Management, Case 1)

			Ensures fair, timely and equal distribution of resources	We have our monthly meetings, we have our calendar for the year…the first thing is we share the strategy for the year to all members [...] We do feedback at the end of every event and every quarter we do surveys to see if what we have done in the last quarter of the year to see if it worked for them [the members] [...]Currently we have a website, newsletter, social media (Twitter, Facebook, Whatsapp) where we share information. Beyond that we also do webinars. (Management, Case 3)
	STAKEHOLDER (MEMBERS AND PARTNERSHIPS) MANAGEMENT	This covers how the leadership/management of the network caters to all the stakeholders or persons or organisations that the network is involved with or responsible for	Caters to members' business needs	Like now in February we are going to have export promotion by expert persons in authority who will come and speak on how to access international market…what happens there…what's the value chain so we have a private equity person who will come so we do that at our meetings…we are partners with Cheryl Blair…every year we have intakes of about 10 women...we have partnerships with USIU and we already have the intake running and have about 10 slots…and we are looking to do more this year...like one of our key strategies is leveraging technology, unlocking financial services and capacity building. (Management, Case 3)
			Manages external support or partnerships	We partner a lot with developmental organisations…we've worked for the longest time with ILO…we've worked with UN women, UNDP, basically the UN body…we've also worked with trademark East Africa. We work a lot with external partners […] Without programmes there is no association running. You get to work on your sustainability with the programmes because you can save on a few coins. (Management, Case 1)

5.2.5 Defining and naming themes and producing the report

As indicated in the previous section, the analysis process resulted in six overarching themes and thirteen sub-themes. A final check of each theme against the data and its relation to the constructs was carried out. This phase involved settling on the best description that explained the themes and arriving at the final set of themes for each construct. For the 'Governance' construct, there are three overarching themes and five sub-themes; for the 'External Support' construct, there is one overarching theme and four sub-themes and, lastly, for the ICT construct there are two overarching themes and four sub-themes. Table 5.5 shows an example of constructs and the themes that fall under them.

Table 5.5: Final themes, descriptions and sub-themes for each construct

CONSTRUCT	OVERARCHING THEME(S)	DESCRIPTION	SUB-THEME(S)	
GOVERNANCE	Mode of Governance	This theme covers the leadership of the network with focus on how it is set-up, how decisions are made and who is involved, how network activities, network adminstration and network-level issues are managed and coordinated.	Mode of Governance	Provan and Kenis (2008)
	Resource Acquisition and Control	This theme covers how resources are acquired or sourced for by the management /leadership and the nature or type of resources involved, the distribution of these resources, and the management of the resources within the network	Ensures seeking and acquiring of resources	Provan and Kenis (2008); Turrini et al. (2010); Human and Provan (2000); Lin (2008)
			Ensures fair, timely and equal distribution of resources	

	Stakeholder (Members and Partnerships) Management	This theme covers how the leadership/management of the network caters to all the stakeholders or persons or organisations that the network is involved with or responsible for	Caters to members' business needs	Human and Provan (2000); Provan and Kenis (2008); Turrini et al. (2010)
			Manages external support or partnerships	
EXTERNAL SUPPORT	Partnerships providing resources to the network	This theme covers the nature of partnerships the networks have with persons or bodies outside the network, and the benefits or resources accrued from these partnerships	External support for funding for network	Bierema (2005); Oztas (2007); Lin (2008); Spring (2009); Huang et al. (2013)
			External support for programmes that build individual capacity	
			External support for policies and initiatives that build or aid the business	
			External support for funds for members	
ICT	Nature of ICT use to cater to network-level operations and functions	This theme covers how ICTs are used for network-level operations and functions, the perception of ICTs by the management of the network, the level of alignment of ICT use to the strategy of the network and the advantages the use of ICTs gives at the network level	ICT as an integral part to structure, operations and strategy	Brynjolfsson and Hitt (2000); Sundarajan et al. (2013)
			ICT as cost reduction and efficency/resource tool	
	Nature of ICT use to cater to members	This theme covers how ICTs are leveraged to cater to the needs of the network members and the use of ICTs to provide or obtain social capital.	ICT as a tool for providing, gaining and accessing social capital	Jamali, Voghouei and Nor (2014); Ajjan et al. (2014)

5.3 FINDINGS

Due to the anonymity clause for the participants in this study, the names of the networks are withheld when presenting the findings and referred to as eFWBN1 (Kenyan Network), eFWBN 2 (South African Network) and eFWBN 3 (Kenyan Network). The position and profile of the participants/informants are disclosed, but their names are also withheld.

5.3.1 Governance in eFWBNs

The thematic analysis resulted in three overarching themes under governance in eFWBNs. These themes include the mode of governance in the networks, resource acquisition and control, and stakeholder management. Each theme is discussed in detail below.

5.3.1.1 Mode of Governance in eFWBNs

The mode of governance in the networks seemed to be determined at the formation stage of the network. At this stage, the constitution is written and contains details about how leadership will be elected, the role of each member of leadership, the nature of floor members, the network goals and general mode of operation and activity. Each of the networks in this study had a constitution; however, the mode of governance varied. eFWBN2 and eFWBN3 adopted the participant governed model while eFWBN1 adopted the Network Administration Organisation (NAO) model. With the participant governed model, the members of the network are able to participate in the leadership and may also partake in making decisions about the network (Provan and Kenis, 2008). All the coordination and management of the network operation and activities can either involve all the members or just a few elected by the members. For eFWBN2, details of the election process and the roles and responsibilities are stated in the constitution and published on the network's website. The chairperson of eFWBN2 had the following to say about the leadership of the network:

> *We do have the chairperson and vice chairperson who are elected for a period of two years by the membership body and we then have in addition to them a committee of seven women. The committee kind of makes sure that all of the meetings run on time, that all of the support functions necessary for the*

organisation gets done. All the administration is done by the administrator – (Management, Case 2; Committee page on Website, Case 2)

Similar to eFWBN2, eFWBN3 also elects their leaders every two years, but rather than use the term 'committee', they refer to their main leaders as 'board members', while forming committees and sectors that members can lead and participate in. The chairperson explained this dynamic as follows:

We do not have a management team per say, it is just the board working through committees and sectors […] Committees such as membership committees to recruit members, keep members happy. Programme committee – to ensure the programmes that we are running run well, that things are done, and fees are collected. Internal programmes is our calendar, which involves our monthly Tuesday meeting. The committees are run/held by the members.

Governance in eFWBN1 involves board members and secretariat staff that are permanent and have been in leadership since the network started. The head of secretariat outlined the nature of management within the network:

We currently have five women board members, five permanent staff. It [the network] started with the board members who are basically volunteers because these are women entrepreneurs who run their own businesses so actually you'll never find them sitting in this office […] so it (the network) grew from them implementing all the programmes and activities that the association runs to now us having a secretariat. We formed the secretariat in early 2013 cos 2012 I was the only one and I was the first one and we formed a secretariat. We had another executive officer with two other employees to now that we have many employees but who are programme based, as much as we have many programmes then we engage more people.

Apart from the way leadership is commissioned or enacted, the nature of administration and operation also varied across the networks. eFWBN1 conducts all their operations from their physical office. Having a physical office was seen as a way of obtaining internal and external legitimacy; two factors which promote sustainability in the long run (Kenis and Provan, 2009). The head of Secretariat (eFWBN1) strongly advocated the need for a physical office:

Yes, having an office space is crucial to the sustainability of an association, that and also some staff…you [may] have the capacity and skill to host a programme but if you don't have an office you can get easily

turned down and that is what we are talking about…Even your members if they want to come and talk to you where are they going to go.

Also, eFWBN1 had a strong online presence, and some network functions were conducted online — for instance, registration for membership can be done through a portal on their website. The management and coordination of the network are divided between the board members and secretariat staff; however, the secretariat bears most of the day to day, membership and general operation and administrative responsibilities. When it comes to amplifying international or high-level regional and national recognition or establishing relationships in these spaces, the board members are involved. Explaining the division of responsibilities, the head of the secretariat stated:

We draw our technical assistance and inspiration from the board. Because when we are developing programmes it has to come from us [secretariat], so we go from developing proposals to fund raising to implementing the programmes…for the board it's mostly appearances when we go for serious meetings [or] for fund raising…they also give us ideas on what to do and how to approach certain programmes…

eFWBN1 activities include lobbying and advocacy for women entrepreneurs, holding monthly network meetings with members, mentorship, capacity building, seeking resources for the network, sourcing for, creating and organising programmes that can benefit the members. These activities are mostly coordinated and overseen by the secretariat, but with the involvement of the board members.

eFWBN2 have no physical office and do all their operations and communication online. Their website also has a membership and meeting RSVP portal. All information regarding the network can be found on the website. However, they have monthly physical meetings where different speakers come to talk to the members. Also, eFWBN2 holds workshops and has a mentorship programme. The network also runs an online marketing portal to showcase the goods and services offered by their members. The administrative duties such as communication with members are done by the paid employee while the committee members have various network-level duties that they cater to. For instance, the chairperson serves as an ambassador of the network and drives initiatives as explained in the following comment:

The vice president deals with any issues that may come up for example people using the list of members to spam or if we get any complaints from outside parties that our members have been behaving

dishonourably or unethically…My role as chairperson is to maybe be an ambassador for the organisation but then also to drive forward initiatives to be able to increase the scope of the organisation…For example I launched a mentorship programme.

eFWBN3 also have no physical office. Their administration, operation and communication is done electronically. Membership can be applied for through their website and all contact or network information is published online. eFWBN3 hold a monthly meeting where workshops and seminars are given, with guest speakers offering useful advice to the women entrepreneurs. The chairperson mentioned the network is in the process of setting up a secretariat:

We do not have a management team per se, it is just the board working through committees and sectors. We are only trying now to create a secretariat.

The mode of governance adopted in each network seems to relate to the size of network. Provan and Kenis (2008) suggest that networks with low membership seem to adopt the participant governed model, while those with many participants adopt the NAO model. They also argue that the more the network grows or embraces growth in the number of participants, the more likely it is that the mode of governance will change from the participant governed model to a more brokered mode of governance, like the NAO model. This seems to be the case in eFWBN1, where the mode of governance shifted from shared governance amongst the board to employing staff and creating a secretariat to manage the network. Although, eFWBN3 did not mention growth in the number of participants, the chairperson hinted at the desire for growth at the network-level, hence their decision to work on forming a secretariat. The mode of governance and the execution of governance within the networks also showed the enactment of women's personal values and social values to support and promote women's entrepreneurial endeavours and intentions (Koen, 1984; Martine, 1990).

5.3.1.2 Resource Acquisition and Control

Resource acquisition and control is a major part of networks and an important task for the leadership of the networks (Human and Provan, 2000; Lin, 2005; Turrini et al, 2010). Lin (2005) argues that the more resources acquired by a network, the more resource-rich the network becomes, which will result in better gain for the actors within the network. Human and Provan (2000) further contend that in order to increase internal legitimacy (that is, be seen as

viable to the members), networks must continually provide and distribute resources to their members. This ensures that the network is stable, sustainable and that the network goals are achieved (Turrini et al, 2010). The resources within the networks range from funding/money to programmes, workshops, business opportunities, government procurements for members, capacity building, and information on relevant and beneficial topics or areas. Turrini et al. (2010) noted that without adequate resources like funding, the networks risk sustainability and viability challenges. Making a point on the need for funding to sustain the network, the head of secretariat in eFWBN1 mentions:

> *I think mainly it is funding…funding for sustainability because you need money to run an office like this…*

Each network provides resources for their members and makes it a priority to ensure every member accesses them:

> *We always try to have speakers at each of our meetings that can add value to their [the members'] business and personal lives. We also have a mentorship programme where our members can apply to as to be paired with a mentor through mentoring sessions.* - (Chairperson of the Network, eFWBN3)

> *[…] in Kenya we have this new thing for 30% for government tenders that have been reserved for women, youth and people with disabilities so we invited them to this forum and invited the government to just address the challenges that we are facing in accessing this provision* – (Head of the Secretariat, eFWBN1)

> *[…] through our monthly meetings, we invite people and key organisations that have useful information to come give a talk. We have partnerships, with USIU and we are looking to do more things this year.* – (Chairperson of the Network, eFWBN2)

Accessing or acquiring resources is mostly done through partnerships, sponsorships and reliance on membership contributions or connections. The partnerships are with developmental organisations, private organisations, government parastatals, regional organisations catering to women, and educational institutions. The different partnerships bring different things to the table. For instance, developmental organisations are usually relied on for funding (in eFWBN1 and eFWBN3), private organisations for sponsorships and capacity building (in all the networks), and educational institutions for short programmes and

workshops/training (eFWBN1 and eFWBN3). Explaining the relationship that exists between the network and the developing partners, the head of secretariat in eFWBN1 stated:

> *For them [the development partners], we act as their implementing partner. It is very rare that you will find ILO implementing a programme on their own they have to find an implementing partner so we work as that. For corporates they help with sponsorships. For government they help with technical advice.*

The chairperson in eFWBN3 also shed light on what they look to some of their partners for:

> The *Kenyan chamber of commerce has 48 chapters because of the 48 counties but we are only in Nairobi so we are able to work with other women in those other counties through them. KEPSA does different advocacies for women so we ride on that instead of doing our own advocacy.*

5.3.1.3 Stakeholder management

The participants highlighted the importance of managing stakeholders, especially the external bodies, as a way of achieving network legitimacy and sustainability (Human and Provan, 2000; Provan and Kenis, 2008). Networks can build legitimacy by engaging with external bodies and showing a commitment to the relationships with them (Turrini et al., 2010). The more networks engage with external bodies and show commitment to the relationships with them, the more their chances of building external legitimacy (Turrini et al., 2010). This is because meeting the expectations of external stakeholders increases the chances of gaining resources that will benefit the whole network (Human and Provan, 2000; Provan and Kenis, 2008). Also, the more connected networks are with external organisations, the more likely they are perceived as viable by their members and, as a result, the members stay committed to the network (Provan and Kenis, 2008; Turrini et al., 2010). In order to achieve legitimacy and sustainability, the network leaders in this study applied factors like formal registration of the network, established and physical structures (constitution), providing resources, conducting programmes and events that cater to the needs of the women entrepreneurs. To achieve sustainability, the networks seek ways of obtaining funds from external sources or within the network to run and operate the network; and ways of seeking and obtaining resources. This is possible through partnerships with external bodies and individuals. eFWBN1 and eFWBN3 participants emphasised that partnerships with external bodies are important for the network to gain funding, programmes or access to beneficial resources for the members. The head of

secretariat in eFWBN1 further touched on the need for trust in order to keep the relationship going between them and their partners:

> *For us…the development partners will be more important because with them you get programmes. Without programmes there is no association running. You get to work on your sustainability with the programmes because you can save on a few coins […] But the challenge is getting them or getting them to trust that you can do a certain programme. You know because for them once they work with one you'll work for a long time…to get a new one they have to have trusted you enough to bank on you and that you can implement the programme in the best way possible*

The chairperson in eFWBN2 did not share the sentiment regarding partnerships with external bodies. She explained the dynamics regarding who the network turned to for funds and sponsorships:

> *We do not get sponsorship from any international organisations or government. We get absolutely nothing. We rely on our members and it works out nicely… we seem to be giving value to our members with what we are achieving just through the money that we are raising at our meetings and through our raffles and our fund raising.*

In addition to managing relationships with sponsors or partners, the networks ensure they cater to the needs of their members. This is done through programmes, meetings and sharing of information or opportunities. As observed on their social media pages and videos of past events/meetings, eFWBN1 and eFWBN3 are highly focused on providing business related resources for their members through the monthly talks and certain programmes organised by developmental programmes or educational institutions. On the other hand, eFWBN2 is not entirely focused on business related resources. The observed monthly meeting involved a talk on skincare, suggesting that the network also cares about providing non-business related information and support to its members. The chairperson echoed this when explaining how the needs of members are met:

> *We always try to have speakers at each of our meetings that can add value to their business and* ***personal lives.***

The findings show that while the nature of its occurrence varies across the networks, membership and catering to the needs of the members is a priority, be it personal or business related.

5.3.2 External Support

Extant literature shows that networks are often in connection with other organisations or individuals who provide support or partnerships in one way or another (Bierema, 2005; Spring, 2009; Huang et al. 2013). In addition, external support could influence the activities of networks by providing resources such as funding, capacity building that is beneficial to the members (Turrini et al., 2010). Lin (2008) explains that just as members within a network form relationships to gain resources, networks can build relationships with external organisations to also gain network-level resources. Hence, the more connected networks are with external groups or bodies that are rich in resources or have resources to offer the more the quality and quantity of resources embedded within networks will be improved (Oztas, 2007; Lin, 2008). The networks in this study gain external support through partnerships, sponsorships and close ties with individuals outside the network (Lin, 2000, 2008).

For eFWBN1 and eFWBN3, they work closely with partners who sometime dictate the kind of programmes available to the members and how they are run. For instance, eFWBN3 is part of a global network with several chapters across all continents. The chairperson for eFWBN2 stated that the network sustains itself mostly through the contribution from the members and does not rely on partners or external support – unlike eFWBN1 and 3. The websites of the networks publish logos of the organisations or bodies that the network has ties with. Every partner or sponsor or individual brings something to the table for the networks. The participants explained the nature of relationship and partnership with partners and sponsors, or the lack thereof, as is the case in eFWBN2:

> *We partner a lot with developmental organisations…we've worked for the longest time with ILO…we've worked with UN women, UNDP, basically the UN body…we've also worked with trademark East Africa and we have also partnered with educational institutions because some of them have programmes for women entrepreneurs...like mini MBAs sort of because we are also encouraging women to further their education. Because you find that sometimes contracts you are looking for people ask you 'are you qualified'. So we work a lot with external partners. Ehm…for them especially the development partners, we act as their implementing partner. It is very rare that you will find ILO implementing a programme on their own they have to find an implementing partner so we work as that. For corporates they help with sponsorships. For government they help with technical advice.* — (Head of Secretariat, eFWBN1)

For individuals we work with, it is business owners. Then with organisations we work with trademark east Africa and then of course our international network which we are a part of has 54 chapters across the world. We work with chamber of commerce, KEPSA, and we are trying to expand to another called east Africa women in business council. We are trying to expand our reach beyond Kenya. The Kenyan chamber of commerce has 48 chapters because of the 48 counties but we are only in Nairobi so we are able to work with other women in those other counties through them. KEPSA does different advocacies for women so we ride on that instead of doing our own advocacy. – (Chairperson, eFWBN3)

We don't have outside input…the only person you could sort of call a stakeholder is our anonymous sponsor that gives a cash amount in order to be able to stand up and talk at our meetings and have their logo on our website and on our communications but they have absolutely no say in how the organisation is run or how the organisation moves forward […] We have a non-formal agreement with the women's forum at the Durban's chamber of commerce industry and I sit on the executive committee for the women's forum in Durban's chamber and we have a kind of understanding that it is in everyone's interest to cross-market each other's events (with Durban branch of BWA as well). – (Chairperson, eFWBN2)

The findings show that partnerships seem to be more sought after by the network in Kenya (eFWBN1 and 3) especially in areas of funding and capacity building in members. In eFWBN2, the reliance on external support is not as heavy, although individuals and some organisations contribute to the network in terms of talks and meeting support.

5.3.3 ICTs

It was evident across the cases (networks) that ICTs are of great importance to the networks both at network-level and membership-level; however, the nature of ICT use to facilitate or enhance the network activities varied in all networks. Also, the level of integration of ICTs to the strategy and structure of the networks varied. From the analysis, two main themes were derived for the ICT construct, they include the nature of ICT use to cater to network-level operations and functions, and the nature of ICT use to cater to membership. Each theme is expounded on respectively in the following sections.

5.3.3.1 Nature of ICT use to cater to network-level operations and functions

The findings reveal that the eFWBNs perceived ICTs such as emails, social media and instant messaging apps (Whatsapp), mobile and desktop applications to be of utmost importance to the activities and operations of the network. Also, the perceptions of the leaders seemed to drive the use of ICTs and the extent to which ICT tools were leveraged. Brynjolfsson and Hitt (2000) argue that organisations who incorporate the use of different ICT tools into their activities and operations will reduce cost and time factors and increase efficiency in coordination and communication. Echoing these arguments, Sundarajan et al. (2013) state that an increase in the use of ICTs within networks will enable the flow of communication and information amongst different actors. In eFWBN1, ICTs are used mostly to facilitate and enhance their activities and operations, especially for communication (Brynjolfsson and Hitt, 2000; Sundarajan et al., 2013). The head of secretariat explained how ICTs help with communication:

> *We use ICTs primarily for communication. Because for us we have to communicate a lot with our members and stakeholders just to tell them these are the activities that we have. Because our laws are creating market linkages…we can only do that through communication. When we are talking about dissemination of information you can only do that through ICT platforms. When we are talking about access to finance…it's still ICTs. So we use it on a day to day basis really.*

In comparison to eFWBN1, ICTs are leveraged quite differently in eFWBN2 and 3. The observations by the researcher noted that not only is ICT taken seriously by eFWBN3 and eFWBN2, the use of ICTs is integral and crucial to the operation and management of the network. These networks coordinate and operate electronically without a physical office, leveraging ICTs tools such as emails, the internet, websites, social media and Whatsapp to communicate, organise and plan. The leaders of eFWBN2 seemed very keen and comfortable with leveraging ICTs at a 100% level for the running of the network and intend to leverage ICTs more:

> *The different ICT tools we use have absolutely helped and contributed to the activities of the network. 100%. All of our administration and communication happens electronically. We use google docs, google spreadsheets to be able to keep track of our membership and our website is the focus of all of our event bookings and absolutely everything we do goes through the website* – Chairperson, eFWBN2

For me I'm in the game 'cos I do a bit of online marketing myself. So for me it plays a huge role, for instance, just recently we have redone our website and turned it into sort of an e-commerce option and we are now investigating doing some marketing automation to tie into our website and things like that.
– Committee Member, eFWBN2

Also alluding to how seriously the network takes ICTs and how ICTs eliminate cost and travel, the chairperson of eFWBN3 explained how leveraging ICTs and partnership with ICT companies is a key part of the network's strategy:

[…] We are looking to do more this year...like one of our key strategies is leveraging technology […] We are looking to intentionally partner with the ICT authority of Kenya, Safaricom and we started a conversation with them last year and also, Microsoft has agreed to make us resellers of office 360. We take technology very seriously and want to take it more seriously. The world has become a global village. For instance having webinars makes life easy, people don't have to move about. Having office 360, you can have all your documents in one place and access it anywhere and these are women who are promoting international trade amongst them and they will be travelling so they need to know that they can access their documents anywhere as long as there is internet.

The variation in how each eFWBN leverages network can be attributed to the leadership and mode of governance in the networks. Research shows that managerial and leadership positions influence the nature of ICT usage within women-led organisations (Watson, 2006; Robb and Watson, 2012; Ajumobi and Kyobe, 2017). This could be due to the level of technical know-how or exposure to ICTs or the nature of strategies adopted by the individuals. For eFWBN1, they have adopted the NAO mode of governance, which involves different layers of leadership and a physical office for operation. Thus, they may not see the need for full electronic operation and merely use ICTs to support or facilitate their activities and drive some of their strategies. For eFWBN2 and eFWBN3, the leadership relies on one major person whose influence carries much weight in terms of the direction of the network activities and operations. The chairpersons in these networks are highly inclined to use ICTs, therefore it is possible that their influence within the network makes it possible to run the network electronically and incorporate ICT as a major aspect in their strategies.

5.3.3.2 Nature of ICT use to cater to members

ICTs are used to cater to the members by sharing information and opportunities via emails, newsletters and social media. In eFWBN1 and 3, members are also engaged on Whatsapp and

are encouraged to network, advertise and market their goods and services using this medium. This method seems further to afford access to and exchange of social capital amongst the members of the networks. Across the networks, the leaders share the view that becoming digitally inclined and aligned is the way to go at this time, and perceive ICTs as a crucial way of gaining a wide, inexpensive and efficient reach to current and potential members. Nonetheless, the network leaders are cognisant of the level of digital literacy of women and note this as an occasional challenge. The head of secretariat for eFWBN1 explained the difficulty experienced in trying to get everyone on the same page regarding digital literacy and how they try to address the challenge by offering basic training:

> *It is hard to account for those who might not be digitally literate but we provide basic training. You won't find that we are doing an IT course but what is necessary like for instance if you need to apply for something from the government now it's easier to go online and apply for it so we can teach you how to do those basic ones […] So you see you have no choice.*

The chairperson of eFWBN2 also noted that catering to the different digital literacy levels posed a challenge, especially from a racial perspective where blacks, particularly in rural areas, do not always get frequent or easy access to the internet:

> *Our biggest challenge is that we do almost all our communication electronically, via email and facebook. And trying to reach emerging entrepreneurs who perhaps don't have that internet access is one thing we are really struggling with. We will love to bring more women with colour into the organisation. It has been our focus for a number of years but it is challenging because of our inability to be able to communicate by phone just purely from time perspective. Our administrator cannot phone all those people to say this is where our meeting is would you like to book. Everything is done online. I definitely look forward to the day where we have 90% as a fair representation in this country as opposed to 10% where we could reach more rural women, etc, who have those businesses I believe will benefit from a lot from the learning and knowledge that we have.*

Research shows that there are women who are not highly digitally literate or inclined and this is often due to the level of exposure to ICTs, their perceptions of ICTs, and socio-cultural norms (Ramilo, 2008; Li, Glass and Records, 2008). Researchers also argue that sometimes women have low confidence in their ability to use new technology (Li et al., 2008). Therefore it is plausible that the women within the eFWBNs who are not highly digitally literate or inclined to leverage ICTs have less confidence and exposure when it comes to the use of ICTs. In addition, socio-economic factors, like the high cost of ICT tools and services that often

burdens developing countries, could limit the use of ICTs amongst these women (Burrell, 2010; Hilbert, 2011; ICRW, 2012).

Although the issue of digital literacy poses a challenge, the network leaders have plans in place to adopt more ICT tools or the use of current ICT tools to cater to the needs and development of their members:

> *We are currently working on a bit of a fresh face for our website where we are also gonna have a section for business articles to try and be able to offer them [the members] even more information when it comes to everyday challenges that we face as business owners.* – (Chairperson, eFWBN2)

> *What we also working on is an online networking platform where women can be interacting like facebook. It will help because when we are even talking about the training, it is shifting to online training so we don't have to always set up a classroom unless most of that lecture is practical and not just theoretical. But most of it…even we have partners who are converting from hard to soft so that it can be done online. And we get a lot of partners asking 'can we implement our training programmes online'…so that is what we are trying to cater to. And Kenya is becoming a very digital country because even for this 30% procurement provision, when we are talking about tendering in Kenya it is an online system. So we have no choice but to follow suit and we just have to encourage women that now you have to get online. Because it's hard but it is something that the government is really working on so we have to follow suit.* - (Head of Secretariat, eFWBN1)

Jamali, Voghouei and Nor (2014) note that due to the uncertainties in the environment, it is important for organisations to access, gather and exchange information in order to keep abreast of the environment, which in turn will help them make decisions. They further argue that the use of ICTs, organisations can reduce uncertainties and be in the position to reduce the cost of gathering information and engaging in physical interaction (Jamali et al., 2014). In general, the different ICT tools provide ways for the networks in this study to coordinate, facilitate and manage the network-level activities, which eliminates cost and time and increases reach and access (Jamali, Voghouei and Nor, 2014). Bearing in mind the digital literacy level of the women entrepreneurs, ICTs also provide ways of sharing and exchanging resources, thus potentially increasing social and human capital (Ajjan et al., 2014).

5.3.4 Evidence of interplay between Governance, External Support, ICTs and other network elements.

Due to the nature of the qualitative data and the nature of the conceptual model guiding this study, the in-depth thematic analysis of the data in search for themes was limited to the constructs governance, external support and ICTs. After deriving the themes, further analysis was done to find evidence of interplay amongst the elements and the nature of these interplays. The reader is reminded of the discussion, on the interplays that exist between the elements, presented in Chapter 3. The process of identifying these interplays was iterative, it involved going back to the different data items/points and also the available literature to see if the deductions and inferences being made were valid/significant. For example, the data from the management interviews were first examined to determine instances where the informant mentioned (directly or indirectly) how the actors influence governance and how governance impacts on the actors. Literature posits that in certain governance modes, the actors within a network will influence the choice of leaders and the goal of the leaders (Provan and Kenis, 2008). Also, literature shows that the governance structure in a network determines the type of actors within the network and coordinates exchanges within them (Singh et al., 2006; Spring, 2009). In light of this predicted interplay, where the participant mentioned how membership elects those who govern, it was noted as evidence of an interplay. Also where the participant mentioned how the leadership determines how members are admitted or selected to the network, and the criteria used for this purpose, it was noted as evidence of an interplay. This process continued until all variables and possible interplay were covered. In some instances the interplay or relationship was direct, in other instances it was indirect and not very obvious, as indicated in Table 5.6. These differences were noted. Also, the predictions and arguments in literature regarding the possible relationship or interplay between governance and actors were examined against the observations and findings, to note differences or similarities. After going through this process in the entire data corpus in every case, and gathering sufficient evidence to indicate interplays, the analysis came to a conclusion. Table 5.6 provides a summary of each case, the variables and the evidences of interplay.

Table 5.6: Summary of variables and interplays in all networks.

	eFWBN1	eFWBN2	eFWBN3
Evidence of Governance influencing Actors (Direct) (Singh et al., 2006; Provan and Kenis, 2008)	Engagement and interaction with members	Inclusivity of members in the selection of leadership	Inclusivity of members in the selection of leadership, Ensuring and encouraging trust, Type of actors attracted or involved
Evidence of Governance influencing Relationships (Direct) (Ibarra, 1993; Singh et al., 2006; Lin, 2008)	Providing networking platforms	Ensuring and encouraging trust, Providing networking platforms	Ensuring and encouraging trust, Providing networking platforms
Evidence of Governance influencing Flow (Direct) (Lin, 2008; Provan and Kenis, 2008)	Resource Distribution Platforms/Resource Acquisition	Resource Distribution Platforms/Resource Acquisition	Resource Distribution Platforms/Resource Acquisition
Evidence of Governance influencing ICT (Direct) (Brynjolfsson and Hitt, 2000; Sundarajan et al., 2013; Jamali et al., 2014)	Integral to the activities and operations of the network - Key Strategy/Used as tool	Integral to the activities and operations of the network - Key Strategy/Used as tool)	Integral to the activities and operations of the network - Key Strategy/Used as tool
Evidence of Governance influencing EXT Support (Direct) (Lin, 2008; Turrini et al., 2010)	Seeking partners/sponsors, Managing partnerships	Somewhat evident but not entirely applicable here as in the other two cases	Seeking partners/sponsors, Managing partnerships
Evidence of ICT influencing Actors (Direct) (Farr-Wharton and Brunetto, 2007; Jamali et al., 2014)	Website attracting membership and serving as point of service and communication to members, engaging with members on Whatsapp and Social media	Website attracting membership and serving as point of service and communication to members, engaging with members on Social media	Website attracting membership and serving as point of service and communication to members, engaging with members on Whatsapp and Social media

Evidence of ICT influencing Relationships (Direct) (Kimbrough et al., 2012; Masika, 2014, Ajjan et al., 2014)	Whatsapp group	N/A	Whatsapp group
Evidence of ICT influencing Flow (Direct) (Sundarajan et al., 2013; Masika, 2014, Ajjan et al., 2014)	Social Media, Emails	Social media / Announcements on Websites/ Member Profiling on Website	Whatsapp group/Social media
Evidence of ICT influencing Governance (Indirect) (Brynjolfsson and Hitt, 2000; Sundarajan et al., 2013; Jamali et al., 2014)	Knowledge and perception of IT by the leadership drives the use of ICT within the network. ICT also assists leadership with coordination and certain activities, e.g., membership sign-up portal	Knowledge and perception of IT by the leadership drives the use of ICT within the network. ICT also assists leadership with coordination and certain activities, e.g., membership sign-up portal and meeting RSVP portal.	Knowledge and perception of IT by the leadership drives the use of ICT within the network. ICT also assists leadership with coordination and certain activities, e.g., membership sign-up portal
Evidence of ICT influencing EXT Support (Direct) (Jamali et al., 2014)	Being able to engage with the partners electronically (via internet) and having a website that can serve as the first point of contact or awareness for potential partners or sponsors	Being able to engage with the partners electronically (via internet) and having a website that can serve as the first point of contact or awareness for potential partners or sponsors	Being able to engage with the partners electronically (via internet) and having a website that can serve as the first point of contact or awareness for potential partners or sponsors
Evidence of EXT Support influencing Actors (Indirect) (Lin, 2008; Provan and Kenis, 2008)	To an extent, because of the programmes implemented or offered by development partners, which are meant to assist or aid the women members. This was mentioned in the interview. Also, the case where the government policy is now inclusive of women can also be said to influence the actors as it opens new opportunities for them.	N/A	To an extent, because of the programmes implemented or offered by development partners, which are meant to assist or aid the women members. This was mentioned in the interview. Also, the case where the government policy is now inclusive of women can also be said to influence the actors as it opens new opportunities for them.

Evidence of EXT Support influencing Relationships	N/A	N/A	N/A
Evidence of EXT Support influencing Flow (Indirect) (Lin, 2008)	Through Sponsorships/donations/programmes, resources that can be exchanged or received by the actors are made available	N/A	Through Sponsorships/donations/programmes, resources that can be exchanged or received by the actors are made available
Evidence of EXT Support influencing ICT (N/A)	N/A	N/A	N/A
Evidence of EXT Support influencing Governance (Indirect) (Bierema, 2005; Oztas, 2007; Lin, 2008; Spring, 2009; Turrini et al., 2010)	Not directly. External support does not influence management or operations, but in some cases they influence the efforts of management. For example, Implementing programmes for developmental partners and making sure they maintain trust and give value so that the relationship can continue.	N/A	Not directly. External support does not influence management or operations, but in some cases they influence the efforts of management to woo them and get them on board or get them to provide resources

5.4 ANALYSIS OF OPEN-ENDED QUESTIONS

Thematic analysis was also carried out on the open-ended questions in the questionnaire administered to the members of each network. The respondents were asked to (1) state reasons why they had joined a women-only business network; (2) state the challenges they face with regards to networking; (3) state the roles their leaders have played in relation to their personal development or business operations and performance; and (4) state what can be improved or changed within their network. These questions were asked for further clarification on some of the closed-ended questions and to provide insight that could be used to explain some of the findings in this study. The same steps explained in the thematic analysis section above were followed for this analysis. The thematic analysis resulted in three themes for the first question, namely, business reasons, shared experience with fellow women, and personal development and support. Six themes were derived for the second question, namely, getting out of comfort zone, difficulty in breaking into established relationships, following up and turning contacts to business, cost, trust, and time. For the third question, three themes were derived, namely, support and looking for interest of members, planning well and keeping abreast of trends, and provision of business development resources. For the fourth question, four themes were derived, namely, better communication, inclusivity and supportive members, more business development resources and networking, and more members and diversity in membership. It should also be noted that some of the respondents stated "nothing/none" to question three and four. A summary of the results of the analysis are presented in Table 5.7 below.

Table 5.7: Summary of themes and responses to the open-ended questions in the questionnaire

OPEN-ENDED QUESTIONS	THEMES	NUMBER OF DATA INCIDENTS	DATA EXTRACTS
Why have you joined a women-only business network?	Business reasons	20	*Because our events are geared towards mums*
			The best platform to grow your business through networking, market linkages, information sharing, training
	Shared experience with fellow women	27	*To promote business amongst women, who are normally discriminated against because they are women*
			Women help and encourage each other by motivating one another
			Women empowerment. You are not alone in things you do
	Personal development and support	31	*Not just for business, food for my soul*
			To strategise myself in women enterprising
			To grow with like-minded women in business
What challenges do you face with networking?	Getting out of comfort zone	16	*I am introverted so networking is out of my zone*
			Old habits and belief limitation. It is a little bit out of my comfort zone but that is why I'm here
	Difficulty in breaking into established relationships	4	*Being a new person in a network where people have established relationships can be difficult to break into*
			Not having previous knowledge about who is in the room
	Following up and turning contacts to business	8	*Consistency and follow up on leads*
			Turning business cards to business
	Cost	2	*It's costly, meals or beverages*
			Financial investment

	Trust	1	*Trust/confidentiality of personal information provided*
	Time	8	*Time to attend due to business activities*
			Finding the time to meet everyone in person
What roles do the executive committee and those running the network play in relation to your	Support and looking for interest of members	25	*They are super supportive – if I need anything I can count on them*
			Motivation and inspiration and information and entertainment
	Planning well and keeping abreast of trends	7	*Creating awareness of various opportunities*
			Vital that they keep on top of current trends and keep the organisations "fresh"
	Provision of business development resources	8	*They try to introduce me to as many conferences and meetings in order to develop more*
			Bringing speakers (professionals) for education for the members
What can be improved or changed within your women business network?	Better Communication	3	*Communication on email*
			Frequent communication
	Inclusivity and supportive members	7	*The group is so big. You only see each other once a month. The friends chat, great new members friendly but do not try to draw you in. Don't ever ask you about your challenges or problems. Don't give advice or assistance.*
			Better explanation of how things work plus supportive members to introduce you to others
	More business development resources and networking	13	*Become a business support network, not a social group and charity group*
			Provide or support in accessing international markets for our products
			More meetings and workshops to meet manufacturers and service providers. Information on the security risks in some areas and alert members
	More members and diversity in membership	3	*Recruit more members*
			Broaden the racial profile. Ensure visitors of colour don't feel they're incidental to events.

5.5 SUMMARY OF FINDINGS AND CONCLUSION OF CHAPTER

This chapter presented the qualitative data analysis and findings for this study. The qualitative data included interview data, document and website data, and notes from the participant observation. Thematic analysis, using an iterative abductive approach was used to derive themes that explained the governance, external support and ICT construct. Three overarching themes and five sub-themes were derived for the governance construct, one overarching theme and four sub-themes for the external support construct, and two overarching themes and four sub-themes for the ICT construct.

The mode of governance varies across the three networks and the leaders of the network shed light on the approaches and activities they adopt to ensure that the network is running well and that the needs of their stakeholders are met. The findings also highlight the importance of factors such as a physical office, support from external bodies and funding to ensure sustainability and legitimacy for the networks. The comments from the Chairperson and Head of Secretariat, in the two Kenyan networks respectively, suggest that for the networks to survive and for the needs of the members to be met, there needs to be support from external bodies. These networks receive support from developmental organisations, private bodies and educational institutions. However, the leadership in the South African network does not share this sentiment and believe that the contribution from the members is enough for them to run the network and meet the needs of the members. Across the networks, the findings reflect a positive attitude towards the use of ICTs by the networks. The network leaders seem to drive the utilisation of ICTs. In two of the networks, not only is ICT leveraged to conduct network-level activities, but through ICTs, the networks operate online and electronically without having physical offices. The comments from the participants indicate that the leaders of the networks are very cognisant of global changes and the need to leverage ICTs, hence, do all they can to stay technology inclined and compliant.

Apart from the thematic analysis, further analysis was done to identify evidence of interplay amongst the various elements in an eFWBN in the data. The nature of interplay varied across the networks, but the findings suggest that interplay do exist especially between the governance, external support and ICT construct and other elements in an eFWBN. Thematic analysis was also carried out on the closed-ended questions in the questionnaire. The

responses by the respondents were grouped into three themes that explain why they join women business networks, six themes that explain the challenges they face with networking, three themes that explain the roles their network leaders play in relation to their personal and business development, and four themes that highlight what could be improved in their respective networks. The major reason for joining the networks is development, support and shared experiences. The major challenge to networking are the shy personalities of the women and difficulty in breaking into relationships. Regarding the role of the network leaders, most of the comments suggest that the leadership of the networks are supportive (personally and business-wise) and look out for the interest of the members. Lastly, the participants still feel that the networks could do with more business development resources and support at the membership level.

Researchers argue that much mixed methods research has often failed to fully integrate qualitative and quantitative data and findings to explain the research model and explain the research questions (Bazeley, 2009; Newman, Onwuegbuzie, and Hitchcock, 2015). Most studies have often stopped at deriving themes from the qualitative data and as such have reported superficial accounts and failed to apply the qualitative findings to other analysis contexts to enrich and deepen the understanding of the phenomenon (Bazeley, 2009). In mixed methods research, this shortcoming is avoidable by converting qualitative data to quantitative data in order to derive more information (Newman et al., 2015). In order to fully test the research model and fully integrate the qualitative data and quantitative data, this study adopted the quantitisation technique. Quantitisation involves assigning numerical data to non-numerical data (Sandelowski et al., 2009) and has been used by many mixed methods researchers (Miles and Huberman, 1994; Sandelowski et al., 2009; Tashakkori and Teddlie, 1998; Boyatzis, 1998). As noted by Newman et al. (2015), quantitisation not only enables a researcher to integrate qualitative data with quantitative data for statistical analysis, it also helps to extend the use of qualitative data to advance interpretation, theory building and theory testing. In this study, the converted qualitative data was merged with the quantitative data to run cluster analysis and fully test the research model from a configurational theeory perspective. Details of this conversion process and the quantitisation technique are presented in the succeeding chapter, which also covers details of the quantitative analysis and findings for this study.

QUANTITATIVE DATA ANALYSES AND FINDINGS – WITHIN CASE AND WHOLE CASE ANALYSIS

"The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them." - Sir William Bragg

6.1 INTRODUCTION

This chapter presents the quantitative data analysis, the results and the findings (see Figure 6.1 for the chapter overview). The quantitative analysis focuses on the women members as the main respondents. The qualitative findings from each case were quantitised and combined with the responses to the questionnaire in order to run cluster analysis. Cluster analysis helped to test the conceptual model and derive patterns that help explain the configurations of eFWBNs. The following sections account for the response rate, details the procedure followed to screen and prepare the data, presents the test for the reliability of the data and the quantitisation process. The cluster analysis method adopted and the results are also presented.

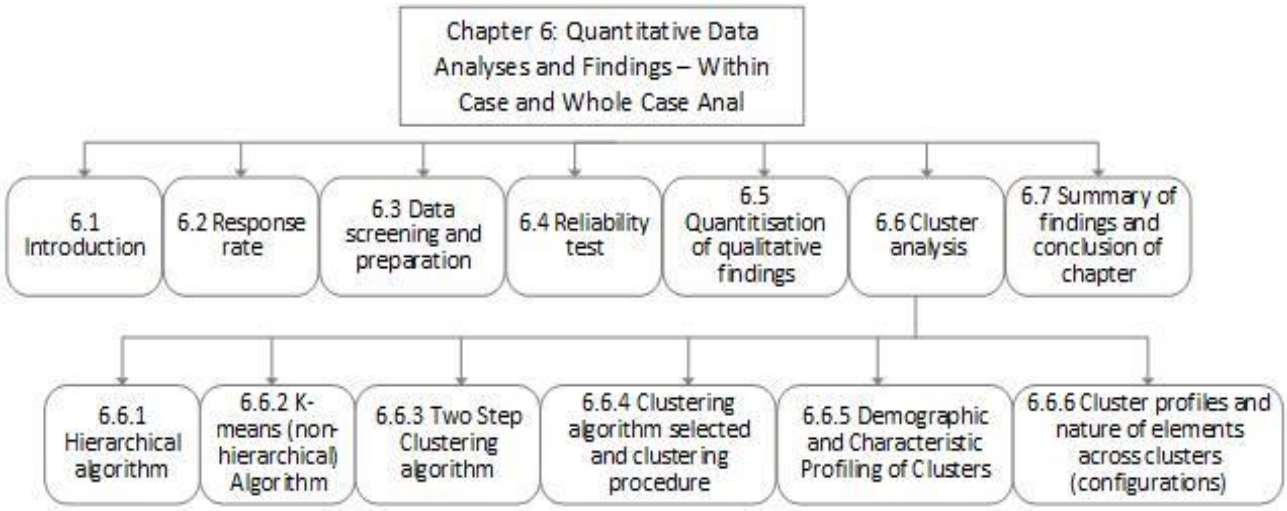

Figure 6.1: Overview of Chapter 6

6.2 RESPONSE RATE

Response rate is usually calculated in survey research to determine the number of invited participants for a study and the number of those who actually participated and completed the questionnaire (Creswell, 2009). Researchers have an equivocal view as to what response rates are valid; however, the consensus remains that it is impossible to determine what the response rate will be in advance, because the researcher has no control over the participant's free will

to participate or complete the research instrument (Bhattacherjee, 2012). Sivo et al. (2006) suggest that the response rate could range from 3% to 100%. Also, researchers caution that while quantitative research has a rule of thumb of at least 30 responses or more for statistical power, depending on the analysis or statistical test required, the response rate or number of responses cannot be placed as a blanket rule over all studies (MacCallum, Browne, Sugawara, 1996; Muthén and Muthén 2002; Jackson 2003; Saunders et al., 2009). This is because factors such as the variables, size of the model, missing data, and nature of respondents often influence the obtained sample size, some of which the researcher has no control over (MacCallum et al., 1996; Muthén and Muthén 2002; Jackson 2003).

For the quantitative part of this study, the women entrepreneurs in the networks were the targeted respondents. Apart from distributing the link to the questionnaire through the newsletters of the networks, a total of 100 questionnaires were prepared to be distributed and administered during the monthly meetings as directed by the management/contact person of the network. eFWBN1 reported having over 300 participants that could respond to the questionnaire, eFWBN2 reported over a 100 in total, and eFWBN3 also reported over a 100. These numbers were given as a probability due to the records of active members and were not representative of the total number of members affiliated with the network. Without a specific and accurate number of participants, it was difficult to determine a suitable sample size. However, to be able to conduct quantitative analysis, the researcher aimed for a sample size of at least 30, which is the minimum acceptable sample size for quantitative analysis (Saunders et al., 2009). In addition, for a case study research, being specific about sample size should not be the focus, rather, as Yin (2014) suggests, one should collect as much data as possible that will suit the purpose of the study. For these reasons, the researcher expected 100 responses, from both the online platform and the physical meetings, from each network. The data collection phase for the questionnaires yielded a total of 108 responses from the three networks (16 from eFWBN1, 77 from eFWBN2 and 15 from eFWBN3), showing a response rate of 16%, 77% and 15% respectively. Similar low response rates as recorded in eFWBN1 and eFWBN2 have been recorded by studies involving women entrepreneurs (Kyobe, 2004; Patel, Messersmith and Lepak, 2013; Ajumobi and Kyobe, 2017). In this study in particular, the women entrepreneurs were often reluctant to fill in questionnaires owing to their busy schedules and/or business demands.

6.3 DATA SCREENING AND PREPARATION

The data collected using the online platform was downloaded in Microsoft excel format. The data collected in person was captured on the same spreadsheet following the coded scale values as created on the online platform (e.g. 1 - 5). For questions with an open-ended response as an option, a scale value was created for the responses. For instance, the question that measured relationships had the options: 'business' (coded as 1), 'friendship' (coded as 2) and 'other' (open-ended response). The respondents that ticked the 'other' option responded with 'both' so 'both' became the third category and was coded as '3'. These questions represented categorical data and as such the values assigned to the options do not have any ranking implications for further analysis. It should be noted that the categorical data in this study was excluded from the inferential statistics carried out using cluster analysis. This was done to reduce potential distortion in the results due to differences in scales and measurements.

After the data was coded and captured, it was screened to check for missing, incomplete or invalid responses. Of the 108 responses collected from the three networks, four responses obtained from the online platform were excluded and rendered invalid as the respondents dropped out and did not complete the questionnaire. Hair et al. (2014) suggest that, as a rule of thumb, a case should be deleted if it is missing almost 75% of the responses, in order not to confound or distort the results from the analysis. Following this suggestion, nineteen responses were excluded on the basis of not completing more than half of the responses. The researcher concluded that the exclusion of these responses would not affect further statistical analysis considering that the remaining number of responses exceeded the minimum requirement for statistical analysis (Saunders et al., 2009). The cleaning and screening process led to a final number of 85 complete responses. Satisfied with the final data set, the researcher proceeded to test the reliability of the data, especially for the variables required for the cluster analysis. The following section presents details of the reliability test.

6.4 RELIABILITY TEST

Reliability tests were carried out to determine the extent to which the items measuring the construct were consistent or dependable (Bhattacherjee, 2012). In other words, the reliability tests helped to establish the possibility of achieving the same results should the same measures be applied in a different study, but with similar settings (Bhattacherjee, 2012). The internal consistency of the measures were tested using a widely known and adopted test known as Cronbach alpha (Cronbach 1951; Nunnally 1978; Sekaran, 2000). The Cronbach alpha tests the consistency of responses to the items measuring a construct and checks the extent of correlation between these items. The closer the Cronbach alpha's coefficient is to 1 the stronger the reliability of the measures (Gliem & Gliem, 2003). A threshold of 0.7 is accepted as a valid value for the reliability score and in the case of exploratory studies, expert statisticians argue that a value of 0.6 or 0.5 is still acceptable (Hair et al., 2014). For this study, the Cronbach alpha test was carried out using Statistica. The reliability tests were not carried out on the categorical data such as demographic data, even though some were measuring the constructs, for instance the 'actor' construct. The results of the reliability test for each relevant construct is summarised in Table 6.1. While most of the measures gave strong reliability scores (>0.7), some of the measures gave reliability scores lower than the generally acceptable threshold of 0.7 (actors = 0.58, networking approach = 0.41, governance = 0.65). Kuo, Ho and Hu (2002) reported similar low scores in their study and proceeded with analysis based on the exploratory nature of the study. Sheng and Sheng (2012) also reported scores lower than 0.5 for non-normal data and a sample size smaller than 100. Teo and Fan (2013) explained that Cronbach's alpha coefficient might report low scores in instances where (1) the scales are multi-dimensional; and (2) the research cuts across different settings, which can result in differences as well. In this study, the items measuring the actor type, governance and networking approach were multidimensional, that is, the scales were different and the categorical distribution also varied. Also, the data instrument was administered over different settings with little control over the responses. These reasons could be why the reliability scores are low for the measures and as such, the researcher decided to proceed with the variables for further analysis.

Table 6.1: Reliability test scores

CONSTRUCTS	NO OF ITEMS/VARIABLES MEASURED	CRONBACH'S ALPHA
Actors (Type)	2	0.58
Networking approach and activity	6	0.41
Relationships	2	0.74
Flow	4	0.74
Governance	2	0.65
ICTs	8	0.78
Contribution and Benefits	7	0.87

6.5 QUANTITISATION OF QUALITATIVE FINDINGS

Quantitisation is the conversion of qualitative data/findings to numeric format and is often employed in mixed methods research (Sandelowski et al. 2009; Teddlie and Tashakkori, 2011). It involves assigning numerical values to non-numerical data in order to gain statistical analytical power (Sandelowski et al. 2009). As noted in the previous chapter, quantitisation was applied in this study to synthesise the qualitative data with the quantitative analysis and to fully test the research model. Thus, the qualitative data helped to fully explore the cluster analysis and the configurational theory to understand eFBWNs and how the elements combine within them. In addition, this approach helped to determine the extent to which each variable in the research model contributed to the understanding of the nature of eFWBNs. Sandelowski et al. (2009) suggests a set of guidelines and conditions to take into consideration when quantitising. These steps were followed to convert the qualitative results to quantitative data. They include:

1. Constant comparison between data and theory
2. Conducting a domain analysis to check that context is not lost while quantitising

3. Consideration for the *a priori* or data-derived codes attached to segments of the data
4. Assigning numerical values to the themes
5. Judging the similarities or differences in themes for the basis of counting
6. Taking into account the object of conversion and the purpose of each code/theme. That is, checking the explanation conveyed in the theme and its ability to guide the understanding of the topic of interest
7. Choosing between nominal, ordinal or dichotomous categorisations of data depending on the type of tests that the researcher would like to carry out using the quantitised data. For this study, the researcher decided on using ordinal data categorisations.

As indicated previously, each theme or sub-theme that was derived from the qualitative analysis was based on descriptions and empirical observations in past studies. These descriptions and observations were also taken into account when coding instances of data that related to each concept or overarching theme. The quantitisation process began with deciding on how to conceptualise the qualitative findings. According to Hammersley's (2008, p. 91), qualitative data may be viewed as sources of "witness accounts about events and settings in the social world", of "self-analyses by informants", of "evidence about informants' orientations", or as sources of "evidence about the constructional or discursive work engaged in by informants." For this study, the qualitative data was viewed as sources of "witness accounts about events and settings in the social world" (Hammersley, 2008, p.91), hence the decision was made to evaluate each theme in line with proof that it was mentioned or observed in the entire qualitative data corpus. Each theme was coded into qualitative data using an ordinal scale of 1 - 5, where 1 = not evident at all and 5 = strongly evident. The researcher chose a scale of 1 - 5, to match the other variables used for the cluster analysis which were also on a scale of 1 – 5 (where '1' indicates the lowest score and '5' indicates the highest score). As noted by Moors, Kieruj and Vermunt (2014), "a scale value of '1' can be assigned to a 'not at all' category to reflect the absence of a trait or absence of agreement with a certain position; while the highest score on the scale range can be assigned to reflect the presence of a trait or the agreement with a certain position" (p. 374).

The researcher chose to code the data using ordinal scales, because of its suitability for cluster analysis and inferential statistics (Mooi and Sarstedt, 2011). In addition, Sandelowski et al. (2009, p. 217) suggest ordinal scales "minimize the loss of sampling and analytic power

resulting from dichotomization and preserve the shades of grey in the qualitative data undergoing conversion." Quantitising in this ways adds value to qualitative data by allowing more inferential meaning to be derived from the data and enables researchers to run inferential analysis that could not be convincingly tested in other ways (Sandelowski et al. 2009). When dichotomous scales are used (that is, present or absent – 0/1), the analysis or interpretation does not provide any additional understanding of the level to which an observation was present or absent in the data. As explained by Sandelowski et al. (2009, p. 217):

> Present and absent may signify different things in transcribed interview data. Present in interview data may, among other options, mean that ''it'' (a) spontaneously came up in discussion, (b) was directed to come up in discussion, (c) was seen by the analyst between the lines, and (d) truly was a dimension of experience. Absent may, among other options, mean that ''it'' (a) did not come up; (b) was not seen by the analyst; (c) was forgotten as a factor by the participant; (d) was thought by the participant to be so understood as to not require bringing it up; (e) was a factor, but the participant did not want to bring ''it'' up; (f) was not brought up because the conversation veered away from ''it''; and (g) truly was not a dimension of experience. 1 or 0 may signal a host of such diverse circumstances.

Hence, to minimise the loss of meaning, Sandelowski et al. (2009) suggest that quantification of a thematic line should be used using ordinal variables. This is because ordinal scales can account for grey areas and, rather than having just two extremes, the scales could reflect to what extent the thematic line or data was present or absent by evaluating the content, time and emphasis, thereby creating more meaning. The degree of evidence across the data set for each case was taken into consideration for the quantification of each theme. Also, the level of emphasis of a thematic line by the informant, or as observed, contributed to the choice of categorisation and the value assigned to each thematic line for a case. This is because each data item had been examined to sift out the nature of each concept, such that the codes and themes helped to explain or elaborate a concept. Moreover, the categorisation was based on the level of emphasis of a thematic line in the data in relation to what the literature had proposed. By way of illustration, the available literature asserts that the more a network seeks and acquires resources, the more resource-rich the network is likely to be; therefore, it is important that leaders of networks seek and acquire resources (Human and Provan, 2000; Lin, 2008; Provan and Kenis, 2008). Based on this background, where the thematic line relating to

'seeking and acquisition of resources' was identified beyond the interview data and emphasis of the informant – that is, when there was also evidence of the thematic line in the documents and website analysis or participant observation – it was regarded as strongly evident that the networks acquired and controlled resources and as such, a value of '5' was assigned. Also, where a thematic line appeared in several instances in the interview data and was emphasised, it was regarded as evident enough that the thematic line was present considering members of the management team were key informants in the study and, as such, a value of '4' was assigned. Where the thematic line was in the interview data alone or document /website with emphasis, a '3' was given (partially evident). Where the thematic line was only in the interview data with no emphasis, a '2' was assigned (slightly evident). Lastly, where the thematic line was not in any of the data items a '1' was assigned (not evident at all). The result of the quantification of each theme according to each case is presented in Table 6.2. The results were then added to the quantitative data and assigned to each response for further analysis (cluster analysis).

Table 6.2: Result of quantitized themes and variables

	eFWBN1	eFWBN2	eFWBN3
Governance			
Seeking and acquisition of resources	5	4	5
Fair and equal distribution of resources	3	5	4
Stakeholder management	4	3	5
Contribution to women's business needs	4	3	4
External Support			
External support for funding for network	5	1	4
External support for programmes that build individual capacity	5	2	5
External support for policies and initiatives that build or aid the business	4	1	3
External support for funds for members	3	1	1
ICTs			
ICT as an integral part to structure, operations and strategy	5	5	5
ICT as a tool for providing, gaining and accessing social capital	4	4	5
ICT as a cost reduction and efficiency/resource tool	4	5	5
ICT training and ICT use awareness for members	3	2	4

6.6 CLUSTER ANALYSIS

The reader will recall that cluster analysis has been adopted to test the conceptual model by grouping the cases based on the responses to the various variables and deriving patterns from the data about the eFWBNs. There are three clustering algorithms that can be used to derive a clustering solution – they are the hierarchical algorithm, k-means clustering algorithm and the two-step clustering algorithm (Mooi and Sarstedt, 2011).

6.6.1 Hierarchical algorithm

The hierarchical algorithm follows and produces a tree-like structure, based on the addition of elements to, or deletion of elements from, the clusters (Mooi and Sarstedt, 2011). The addition procedure is known as agglomerative, while the deletion procedure is referred to as divisive. Although, hierarchical algorithms are well known and have been in existence for decades, they present several disadvantages (Ketchen and Shook, 1996). Using a hierarchical procedure requires a definite choice of the type of algorithm to use, which is often a difficulty, as most researchers cannot determine the nature of a sample beforehand (Mooi and Sarstedt, 2011). Also, due to the one through pass method of these algorithms through a dataset, a poor clustering solution cannot be changed or reversed (Ketchen and Shook, 1996). Hierarchical algorithms also present unstable solutions should cases be dropped and the sample size decrease (Ketchen and Shook, 1996). Due to these problems, the validity of the clustering solution from a hierarchical algorithm will be threatened.

6.6.2 K-means (non-hierarchical) Algorithm

The k-means clustering procedure groups cases in a data set into a pre-determined number of clusters (Mooi and Sarstedt, 2011). An initial centroid is selected amongst a data set for each variable and then the mean scores closer to the centroid are grouped into a cluster (Ketchen and Shook, 1996). This process is done iteratively till an optimal solution is derived and no observation changes cluster membership (Ketchen and Shook, 1996; Mooi and Sarstedt, 2011).

6.6.3 Two Step Clustering algorithm

The two step algorithm procedure can be said to combine the hierarchical and k-means algorithm (Mooi and Sarstedt, 2011). It has its strengths in handling large data sets and categorical and continuous data. However, the two-step clustering algorithm requires a fairly normal distribution, and that all the variables in a data set are independent (Mooi and Sarstedt, 2011).

6.6.4 Clustering algorithm selected and clustering procedure

Apart from selecting the k-means algorithm due to its superiority and fewer disadvantages over hierarchical algorithms, the k-means clustering procedure was also chosen for the following reasons. First, k-means is not affected by ordinal scales and is robust against outliers or differences in scales and data dimensions (Punj and Stewart, 1983). In this study, ordinal scales were employed for the variables used in the cluster analysis. Also, some of the variables measuring some of the constructs had different dimensions or scale range. For instance, the ICT construct comprised data collected at the membership level that measured usefulness, and also data from the network-level that was derived through quantitisation and based on level of evidence. Second, k-means algorithm allows one to specify the number of clusters, which ensures that the within-cluster homogeneity and between-cluster heterogeneity in the final cluster solution is optimal (Ketchen and Shook, 1996). It was important in this study, to specify the number of clusters based on the number of cases to see if patterns would be derived based on the cases or otherwise. Lastly, of the three algorithms, k-means deals better with a small sample size (Ketchen and Shook, 1996). In this study, the sample size was eighty-five and to prevent possible distortions or misrepresentation in the clustering solution, the researcher chose the k-means algorithm, since it deals better with small sample sizes.

The k-means cluster analysis was run with variables that had continuous (ordinal) scales. The variables with categorical (nominal) scales were excluded in order to minimise potential distortions or inconsistencies in the distance measures of the variables. The categorical variables and values were deduced and assigned to each cluster once the clustering solution was obtained. (This is referred to as the demographic profiling in the succeeding section.) The cluster analysis began with a choice of three clusters for the clustering solution based on the number of networks present in the study. The results did not group the cases into three

network groups as expected, so a cluster grouping of two was selected to see if the cases would be grouped according to countries as distinct from the number of cases (networks). The clustering solution for two clusters grouped the cases according to countries perfectly; however, the ANOVA scores did not reveal significant differences for all the important variables as well as the three cluster solution did. While the three cluster clustering solution did not group the cases into the three distinct networks as expected, the researcher decided to proceed with this result because (1) the ANOVA scores testing the mean differences showed significant differences across the three clusters in comparison to the two cluster solution; and (2) the clustering result showed very interesting patterns that could provide insight and understanding into the nature of the networks if compared to what was originally expected or predicted. Due to the nature of k-means algorithm, cases are grouped based on similarities in means and closeness to the centroids and it is possible that two different centroids are selected from the same group (Kuo, Ho and Hu, 2002). Also, outliers within a population maybe grouped into a cluster of their own (El-Hanjouri and Hamad, 2015). Some studies have reported obtaining results different from what was expected or predicted due to the use of cluster analysis (Chowdhary and Prakash, 2007; Zack, McKeen and Singh, 2009) . For instance, Chowdhary and Prakash (2007) had two clusters, with one cluster combining three groups that were expected to cluster separately. Hence, it is possible to find groupings such as the one in this study, since cluster analysis groups cases based on similarity in means even in cases where the respondents vary or are from the same pool or in cases where the theoretical discussions and predictions vary.

The following sections present the results and findings of the cluster analysis, starting with the demographic profiling and characteristics of the respondents in each cluster, followed by the details of each cluster (configuration) and the patterns of the elements in each configuration (cluster).

6.6.5 Demographic and Characteristic Profiling of Clusters

Table 6.3 provides a summary of the frequency distribution of the categorical variables for each cluster. Cluster 1 (n=43) represents a portion of the women in the South African Network (eFWBN2), Cluster 2 (n=16) represents the other portion of the women from the South African Network, while Cluster 3 (n=26) represents the combination of the 2 Kenyan networks (eFWBN1 and eFWBN3). Cluster 1 comprised mostly business owners and women aged

between 31 and 50. Most of the women were married and owned businesses in the financing, insurance, real estate, business services and telecommunications sectors. These women have had their businesses for more than 10 years and had a university degree or higher. Most of the women had not been members of a women business network (WBN) for too long (1 – 3years) and perceived themselves as active members and felt included in network engagements. These women asserted that they desired friendship relationships more, but they seemed to have gained mostly business relationships from their networks.

With a slight variation, Cluster 2 was mostly characterised by women who either owned their business or were employees holding top positions in the organisations they worked for. They were aged 41 and over, slightly older than those in Cluster 1. Most of these women were also married, but had businesses in the community, social and personal services sectors. Most of these women had also been running their businesses for over 10 years and possessed university degrees. While a high proportion reported being active and included in the network engagements, some of the women reported feeling excluded from the network engagements and being passive in the network. Most of the women seemed moreover to be new to networking and desired friendship relationships more than business relationships; however they had gained both relationships from being part of the network.

Cluster 3 had a greater proportion of young respondents who were in their 30s and married. These women were also mostly business owners and had businesses in the financing, insurance, real estate, business services and telecommunications sectors like those in Cluster 1. Most of these women had younger businesses, aged 3 - 5 years, in comparison to Cluster 1 and 2 women and were quite new to membership in WBNs. Most of these women were highly educated and perceived themselves as active network members who were included in the network engagements. These women were primarily interested in business relationships and reported that they had gained mostly business relationships from their networks.

Table 6.3: Demographic profiles and characteristics within clusters

		CLUSTER 1 (N = 43)		CLUSTER 2 (N = 16)		CLUSTER 3 (N = 26)	
Characteristics	**Total**	**Count**	**Percentage**	**Count**	**Percentage**	**Count**	**Percentage**
Business Position							
Business Owner	*55*	***27***	*62.8*	***6***	*37.5*	***22***	*84.6*
Business Partner	*6*	*4*	*9.3*	*1*	*6.25*	*1*	*3.8*
Business Manager	*4*	*0*	*0*	*3*	*18.25*	*1*	*3.8*
Employee	*20*	*12*	*27.9*	***6***	*37.5*	*2*	*7.7*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***
Age							
<21	*0*	*0*	*0*	*0*	*0*	*0*	*0*
21-30	*12*	*6*	*14*	*4*	*25*	*2*	*7.7*
31-40	*30*	*15*	*35*	*0*	*0*	***15***	*57.7*
41-50	*28*	*15*	*35*	*6*	*37.5*	*7*	*27*
51 and above	*15*	*7*	*16.3*	*6*	*37.5*	*2*	*7.7*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***
Marital status							
Single	*30*	*17*	*39.5*	*5*	*31.3*	*8*	*30.8*
Married	*55*	***26***	*60.5*	***11***	*68.8*	***18***	*69.2*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***
Business Sector							
Manufacturing	*2*	*1*	*2.3*	*1*	*6.3*	*0*	*0*
Construction	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Wholesale and Retail trade, Catering, Accommodation and Restaurants, and Repair Services	*16*	*4*	*9.3*	*5*	*31.3*	*7*	*27*

Financing, Insurance, Real Estate and Business Services, Telecommunications	***33***	***19***	*44.2*	*3*	*18.3*	***11***	*42.3*
Community, social and personal services	*24*	*13*	*30.2*	***6***	*38*	*5*	*19.2*
Education and Training	*6*	*5*	*11.6*	*1*	*6.3*	*0*	*0*
Transport, Storage and Communication	*4*	*1*	*2.3*	*0*	*0*	*3*	*11.5*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***
Age of Business/Employment							
Less than a year	*9*	*4*	*9.3*	*2*	*12.5*	*3*	*11.5*
1-2 years	*12*	*7*	*16.3*	*1*	*6.3*	*4*	*15.4*
3-5 years	*18*	*6*	*14*	*0*	*0*	***12***	*46.2*
6-9 years	*12*	*5*	*11.6*	*5*	*31.3*	*2*	*7.7*
10 years and above	*34*	***21***	*48.8*	***8***	*50*	*5*	*19.2*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***
HEQ							
No Education	*0*	*0*	*0*	*0*	*0*	*0*	*0*
High School Certificate	*5*	*3*	*7*	*2*	*12.5*	*0*	*0*
Vocational Certificate	*4*	*3*	*7*	*1*	*6.25*	*0*	*0*
Diploma	*25*	*16*	*37.2*	*4*	*25*	*5*	*19.2*
University Degree and higher	*51*	***21***	*48.8*	***9***	*56.25*	***21***	*48.8*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***
No. of years in WBN							
Less than a year	*22*	*8*	*18.6*	*3*	*18.3*	***11***	*42.3*
1-3 years	*34*	***16***	*37.2*	***8***	*50*	*10*	*38.5*
4-6 years	*13*	*6*	*14*	*3*	*18.3*	*4*	*15.4*
7-10 years	*8*	*6*	*14*	*1*	*6.25*	*1*	*3.8*

Above 10 years	*8*	*7*	*16.3*	*1*	*6.25*	*0*	*0*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***

Member Type							
New	*2*	*0*	*0*	*1*	*6.25*	*1*	*3.8*
Intermittent	*6*	*3*	*7*	*3*	*18.25*	*0*	*0*
Passive	*18*	*8*	*18.6*	*5*	*31.25*	*5*	*19.2*
Between Passive and Active	*5*	*2*	*4.7*	*0*	*0*	*3*	*11.5*
Active	*54*	***30***	*69.8*	***7***	*43.75*	***17***	***65.4***
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***

Position Type							
New	*5*	*2*	*4.7*	*2*	*12.5*	*1*	*3.8*
Excluded from network engagements	*4*	*1*	*2.3*	*2*	*12.5*	*1*	*3.8*
Included in network engagements	*62*	***30***	***69.8***	***10***	***62.5***	***22***	*84.6*
Central to network engagements	*14*	*10*	*23.3*	*2*	*12.5*	*2*	*7.7*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***

Relationship Gained Most							
Business relationship	*35*	***19***	*44.2*	*4*	*25*	***12***	*46.2*
Friendship	*23*	*11*	*25.6*	*4*	*25*	*8*	*30.8*
Both	*27*	*13*	*30.2*	***8***	*50*	*6*	*26*
Neither	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***

Relationship Desired Most							
Business relationship	*32*	*13*	*30.2*	*4*	*25*	***15***	*57.7*
Friendship	*32*	***18***	*41.9*	***8***	*50*	*6*	*26*
Both	*21*	*12*	*27.9*	*4*	*25*	*5*	*19.2*
Total	***85***	***43***	***100***	***16***	***100***	***26***	***100***

6.6.6 Cluster profiles and nature of elements across clusters (configurations)

Table 6.4 show the mean values for each cluster and the ANOVA results for the cluster solution. The mean values represent the mean of the responses for only those in the cluster and not that of the total sample. Four variables did not return significant p-values, they were greater than 0.05 for the ANOVA tests (see highlighted values). The cluster analysis results show that the quantitised variables returned significant mean values to the clustering solution and contributed equally to the patterns derived for each cluster.

6.6.6.1 Networking approach and activity across clusters

The women in Cluster 1 had very high perceptions about networking (m=4.42). They showed agency in establishing relationships with their fellow network members to share resources (m=4.16), and openly discussed their business operations with them (m=4.02). These women reported that their cultural beliefs and business goals or needs influenced how they networked (m=3.56, m=4.02). However, these women did not believe in sharing private issues with their fellow members (m=2.86) and they did not rely on the network alone for their development and growth (m=2.40).

Cluster 2 women seemed to have a somewhat lower estimation of networking (m=3.47) and did not exercise agency regarding establishing relationships with their network members (m=3.06). Their cultural beliefs and business goals did not determine the way they networked (m=2.94, m=3.35). They also rated low their reliance on their networks alone for their development (m=1.82).They did not agree with openly discussing their business operations with their fellow network members (m=3.47) or sharing their private issues with them (m=2.41).

In terms of networking, Cluster 3 respondents felt strongly about its importance (m=4.68). They also exercised agency with regard to establishing relationships (m=4.24) and seemed comfortable with openly discussing their business operations with their fellow network members (m=4.16). They attested to being influenced by their business goals (m=4.16) and cultural beliefs or value systems did not matter to them when it came to networking (m=2.92). These women also had low scores regarding sharing private issues with the members (m=2.24) and relying on the network alone for development and business growth (m=2.48).

Table 6.4: Cluster analysis results

	ANOVA						CLUSTER MEANS		
	Btw - SS	df	Within SS	df	F	signif. P	Cluster 1 (n=43)	Cluster 2 (n=16)	Cluster 3 (n=26)
NETWORKING APPROACH AND ACTIVITY									
Importance of networking	15.91	2.00	50.14	82.00	13.01	0.00	**4.42**	3.47	**4.68**
I openly discuss my business operations with my fellow network members	5.24	2.00	70.57	82.00	3.04	0.05	**4.02**	3.47	**4.16**
I rely on my network alone for my development and business growth	5.06	2.00	98.99	82.00	2.09	0.13	2.40	1.82	2.48
I share private issues with network members	6.75	2.00	99.84	82.00	2.77	0.07	2.86	2.41	2.24
I make sure I establish relationships with network members to share resources and information	17.53	2.00	51.36	82.00	14.00	0.00	**4.16**	3.06	**4.24**
My cultural beliefs, value systems influence my interactions or way of networking	8.43	2.00	137.39	82.00	2.51	0.09	**3.56**	2.94	2.92
My business goals and needs determine why or how I network	7.36	2.00	60.22	82.00	5.01	0.01	**4.02**	3.35	**4.16**
FLOW									
People within the network often come to me to discuss their business concerns	25.95	2.00	93.04	82.00	11.43	0.00	3.16	1.94	3.48
People within the network often come to me to share information and resources	15.41	2.00	81.89	82.00	7.72	0.00	3.35	2.41	**3.60**
I do not miss out on information/resources within the network	19.65	2.00	87.10	82.00	9.25	0.00	**4.07**	2.82	**3.92**

	ANOVA						CLUSTER MEANS		
	Btw - SS	df	Within SS	df	F	signif. P	Cluster 1 (n=43)	Cluster 2 (n=16)	Cluster 3 (n=26)
I get information/resources as effectively as other members within the network	16.50	2.00	63.20	82.00	10.70	0.00	**4.23**	3.12	**3.64**
ICTs									
ICTMobile Phones	17.42	2.00	78.98	82.00	9.04	0.00	**4.51**	**3.53**	**4.80**
ICTEmail	10.41	2.00	37.54	82.00	11.37	0.00	**4.86**	**3.94**	**4.68**
ICTSocial Media Facebook	20.68	2.00	118.03	82.00	7.18	0.00	**4.30**	3.00	**3.96**
ICTSocial Media Twitter	20.87	2.00	171.44	82.00	4.99	0.01	2.05	1.71	3.00
ICTWhatsapp	16.14	2.00	109.56	82.00	6.04	0.00	**4.23**	3.35	**4.60**
ICTBBM	34.38	2.00	128.04	82.00	11.01	0.00	1.40	1.00	2.64
ICTTabs	17.12	2.00	181.31	82.00	3.87	0.02	2.70	2.47	**3.60**
ICTMobileApps	18.17	2.00	184.26	82.00	4.04	0.02	3.47	2.41	**3.68**
ICT as a tool for providing, gaining and accessing social capital	3.83	2.00	7.18	82.00	21.87	0.00	**4.00**	**4.06**	**4.48**
ICT as cost reduction and efficency/resource tool	4.77	2.00	6.24	82.00	31.35	0.00	**5.00**	**5.00**	**4.48**
ICT training and ICT use awareness for members	37.10	2.00	10.00	82.00	152.04	0.00	2.00	2.12	3.48
GOVERNANCE									
Sought advice from management	48.11	2.00	172.99	82.00	11.40	0.00	**4.14**	2.18	**3.84**
Obtained assistance from management	6.27	2.00	150.15	82.00	1.71	0.19	**4.19**	**3.65**	**3.64**
Seeking and acquisition of resources	17.11	2.00	0.94	82.00	745.18	0.00	**4.00**	**4.06**	**5.00**
Fair and equal distribution of resources	39.92	2.00	7.18	82.00	227.94	0.00	**5.00**	**4.94**	3.48
Stakeholder management	26.15	2.00	3.68	82.00	291.49	0.00	3.00	3.09	**4.24**

	ANOVA						CLUSTER MEANS		
	Btw - SS	df	Within SS	df	F	signif. P	Cluster 1 (n=43)	Cluster 2 (n=16)	Cluster 3 (n=26)
EXTERNAL SUPPORT									
External support for funding for network	212.87	2.00	14.71	82.00	593.28	0.00	1.00	1.18	**4.52**
External support for programmes that build individual capacity	153.95	2.00	8.47	82.00	745.18	0.00	2.00	2.18	**5.00**
External support for policies and initiatives that build or aid the business	109.29	2.00	10.00	82.00	447.88	0.00	1.00	1.12	**3.52**
External support for funds for members	19.09	2.00	24.96	82.00	31.35	0.00	1.00	1.00	2.04
CONTRIBUTION AND BENEFITS									
I believe business networks have an influence on a region as a whole	18.86	2.00	42.79	82.00	18.07	0.00	**4.51**	3.35	**4.56**
Business networks provide an opportunity to establish business contacts.	14.33	2.00	19.86	82.00	29.59	0.00	**4.91**	**3.82**	**4.64**
Business networks enable the sharing of ideas/resources/skills.	15.59	2.00	39.63	82.00	16.13	0.00	**4.84**	**3.71**	**4.52**
I learn a lot about new business opportunities from attending network meetings	21.29	2.00	63.53	82.00	13.74	0.00	**4.35**	3.12	**4.40**
Involvement in the network has provided me with additional funding or other resources.	12.53	2.00	106.18	82.00	4.84	0.01	3.28	2.29	3.20
Involvement in the network has allowed me to acquire new knowledge or skills for business/personal development.	15.58	2.00	44.02	82.00	14.51	0.00	**4.47**	3.35	**4.32**
Involvement in the network has led to a heightened public profile for my business/organisation(s).	26.99	2.00	76.26	82.00	14.51	0.00	**4.40**	2.94	**3.72**
Contribution to the business needs of women entrepreneurs	17.11	2.00	0.94	82.00	745.18	0.00	3.00	3.06	**4.00**

*The values above average are in bold format.

*Scale value for Networking Approach, Flow and Contribution and benefit = 1: strongly disagree, 2: disagree, 3: fairly agree, 4: agree, 5: strongly agree. For ICTs, 1: not useful, 2: slightly useful, 3: moderately useful, 4: very useful, 5: extremely useful. For external support and governance, 1: not evident at all, 2: slightly evident, 3: partially evident, 4: evident, 5: strongly evident

6.6.6.2 Flow of resources across clusters

The respondents in Cluster 1 reported high scores regarding the flow at network level, suggesting that they do not miss out on resources within the network and acquire resources as effectively as other members within the network (m=4.07, m=4.23). However at the relational and personal level, the respondents did not seem to have people-initiated discussions about business concerns with them and did not initiate resource and information exchanges (m=3.16, m=3.35).

Cluster 2 respondents scored low on all indicators for flow of resources both at the network level and at the relational and personal level. They felt that they missed out on resources and did not obtain resources as effectively as other members within the network (m=2.82, m=3.12). They also did not have members initiate discussions or exchanges with them (m=1.94, m=2.41).

Cluster 3 respondents seemed to agree about most of the indicators for flow of resources within the network. The respondents agreed to not missing out on resources and receiving resources as effectively as other members within the network (m=3.92, m=3.64). The women in this cluster also agreed to having other members initiate exchanges with them (m=3.60). They also did not seem to find discussions about business concerns were initiated by other members within the network (m=3.48).

6.6.6.3 ICT usage across clusters

At the membership level, the respondents in Cluster 1 did not seem to find ICT tools such as Twitter (m=2.05), BlackBerry Messenger (BBM) (m=1.40), tablets (m=2.70) and mobile applications (m=3.47), useful for networking. They seemed to think very highly of emails (m=4.86), and also found mobile phones (m=4.51), Facebook (m=4.30) and WhatsApp (m=4.23) useful for networking. At the network level, ICTs were used to provide, gain and access social capital (m=4.00) while also reducing cost of operation and providing efficiency and resources (m=5.00). This cluster did not do much regarding ICT training and awareness for its members (m=2.00).

Cluster 2 respondents also reported low scores for most of the ICT tools; they seemed to find only mobile phones (m=3.53) and emails(m=3.94) useful for networking, suggesting they do not engage much with social media and instant messaging apps. Like those in Cluster 1, the use of ICTs at the network-level was the same.

Unlike the other clusters, Cluster 3 women engaged with most of the ICT tools for networking. They reported mobile phones (m=4.80), emails (m=4.68) and WhatsApp (m=4.60) as the most useful ICT tools. They also found Facebook (m=3.96), tablets (m=3.60) and mobile applications (m=3.68) useful. However, like the other clusters, they did not find Twitter (m=3.00) and BBM (m=2.64) very useful. At the network level, ICTs helped to provide, gain and access social capital (m=4.48) and were also perceived to reduce cost and gain efficiency (m=4.48). To an extent, these women ensured ICT training and awareness for their network members (m=3.48).

6.6.6.4 Governance across clusters

Cluster 1 had the Participant governed mode of governance in operation. Their mode of governance reflected cooperative, collaborative, participatory principles. At the membership level, the respondents reported seeking advice from the leadership for business-related issues a few times a year. At the network level, the leadership ensured they sought and acquired resources. The leadership also ensured a fair and equal distribution of resources. Cluster 1 did not rate highly in terms of stakeholder management, partly because they did not get very involved with external parties or engage in partnerships that influenced the network to a high degree.

Cluster 2 shared similar modes of governance with Cluster 1 and the network level execution of leadership also applied. The respondents in this cluster did not seem to seek advice or information from their leaders.

The respondents in Cluster 3 reported seeking advice from their leaders a few times per month. This cluster reported the highest score across all clusters in terms of seeking and acquiring resources. They also engaged with external parties and reported managing the partnerships well. They did not score highly in terms of distributing resources fairly and

equally. This is possibly due to the heavy reliance on external support which sometimes dictates the kind of resources available and those who can benefit from it.

6.6.6.5 External Support across clusters

Clusters 1 and 2 did not rely on external support for funding, programmes, policies or funds for members (Cluster 1, m=1.00, 2.00, 1.00, 1.00; Cluster 2, m=1.18, 2.18, 1.12, 1.00). However, Cluster 3 reported relying on external support and partnerships for programmes that build the capacity of their members; policies and initiatives that build or aid the businesses of their members and sometimes; and funds for the network. However, they also did not do much to seek funds for the members (m=5.00, 4.52, 3.52, 2.04).

6.6.6.6 Contribution and benefits across clusters

Cluster 1 and Cluster 3 enjoyed high scores in terms of the contribution and benefits derived from the network while Cluster 2 reported low values for contribution and benefits. Cluster 1 respondents strongly perceived business networks as an opportunity to establish contacts (m=4.91) and a way of sharing ideas, resources and skills (m=4.84). The respondents believed business networks had an influence on the entire region (m=4.51). Of all the benefits, the only one they reported not having gained was funding from their network (m=3.28). These respondents asserted that they had gained business opportunities (m=4.35); new knowledge and skills for their business and personal development (m=4.47); and heightened public profile for their business organisations (m=4.40).

Apart from agreeing that networks serve as a platform to gain business contacts (m=3.82) and share ideas, resources and skills (m=3.71), the respondents in Cluster 2 did not agree that they gained benefits from the network.

The respondents in Cluster 3 also produced good reports in terms of the contribution of benefits derived from the networks. They strongly indicated that business networks in general provided the opportunity to establish business contacts (m=4.64). They also believed that business networks had an influence on the region (m=4.56) and enabled the sharing of ideas, resources and skills (m=4.52). The respondents also indicated that that they had learnt about

business opportunities from network meetings (m=4.40); acquired new knowledge and skills (m=4.32) and gained heightened public profile for their business or organisation (m=3.72). At the network level, clusters 1 and 2 did not seem to rate highly when it came to contribution to the business needs of their members (m=3.00). Cluster 3 on the other hand, rated highly in that regard (m=4.00).

6.7 SUMMARY OF FINDINGS AND CONCLUSION OF CHAPTER

This chapter presented the quantitative analysis for this study. The response rate, data screening and preparation procedure, and reliability tests were also presented. The quantitisation procedure, which converted the qualitative analysis findings to quantitative data for the purpose of running cluster analysis, was also discussed. The cluster analysis procedure and the chosen algorithm were explained and the results were presented. The clustering solution resulted in three clusters,where Cluster 1 represented a portion of the South African Network, Cluster 2 represented the second portion of the South African Network, and Cluster 3 represented the two Kenyan Networks. In most cases, the nature of the variables varied across the clusters. In terms of networking approaches and perception, Cluster 1 had high scores for most of the measures, followed by Cluster 3 and then Cluster 2, which generated low scores for all the measures. For the flow of resources construct, Cluster 3 had high scores for most of the measure, followed by Cluster 1, while cluster produced low scores for all the measures. Regarding ICT use, Cluster 3 had high scores for most of the measures, followed by Cluster 1, while Cluster 2 reported low scores for most of the measures. In terms of Governance, Cluster 3 and 1 had high scores for most of the measures, followed by Cluster 2. Cluster 3 had high scores for most of the measures for external support, while Clusters 1 and 2 repeated low scores for all the measures. Regarding the contribution and benefits construct, Cluster 3 and Cluster 1 had high scores for most of the measures, while Cluster 2 had overall low scores.

The next chapter presents the discussion of both the qualitative and quantitative findings. This discussion is based on the literature review and theoretical explanations.

CHAPTER 7:
DISCUSSION AND CONCLUSION

"Naming something," said Alice to the Red Queen, "isn't the same thing as explaining it." – ***Lewis Carroll****, Alice's Adventures in Wonderland*

7.1 INTRODUCTION

The last two chapters presented the data analysis for the qualitative and quantitative data collected, the results obtained, and the findings for this study. This chapter presents a discussion of the findings in light of the research questions for the study, providing firstly an overview of the steps followed to answer the research questions; secondly, a discussion of the answers to the research questions, based on each case examined in this study. Thirdly, the tests of the propositions are discussed. Fourth, the theoretical and practical contributions are presented. Fifth, the strengths and limitations of the study are highlighted. Sixth, recommendations for future research are discussed. Last, the conclusion of the thesis is presented. Figure 7.1 shows an overview of the chapter.

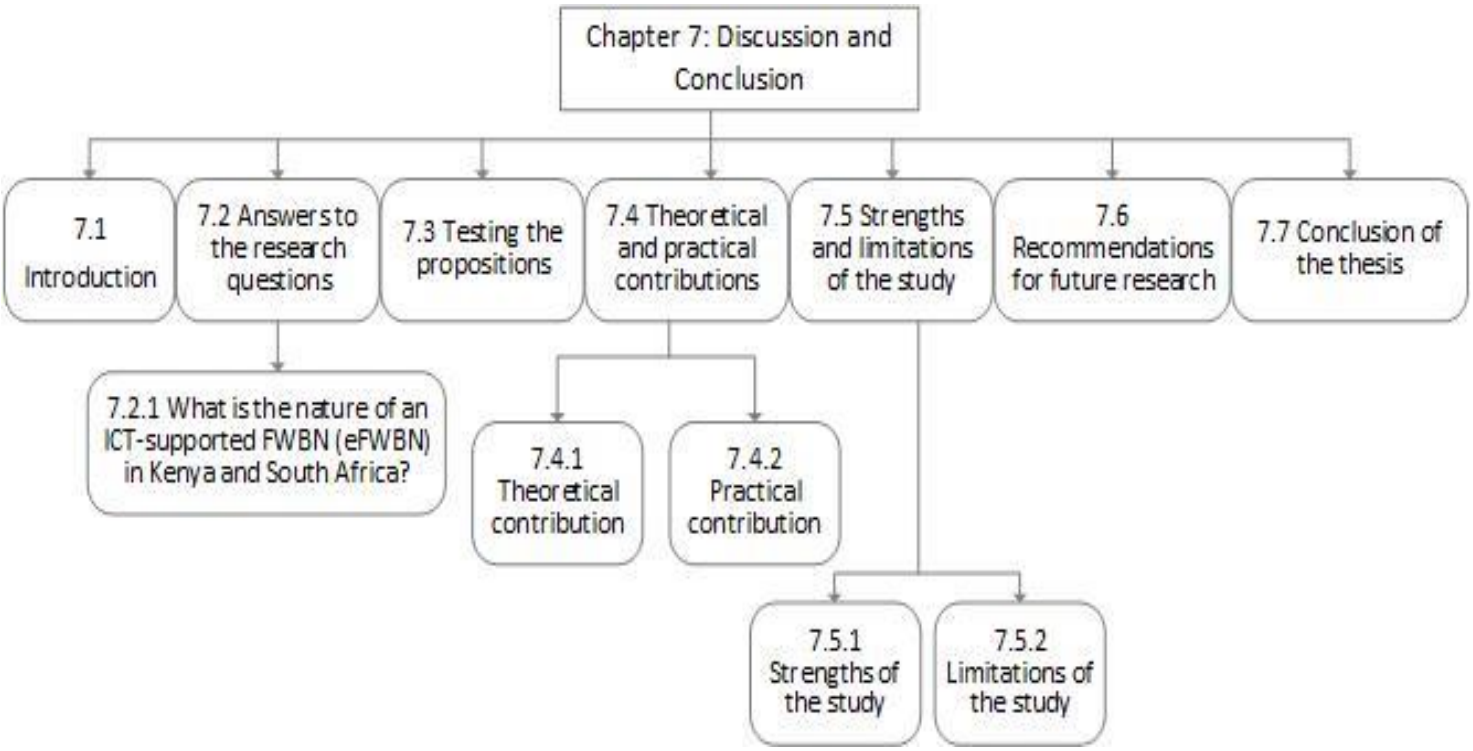

Figure 7.1: Overview of Chapter 7

7.2 ANSWERS TO THE RESEARCH QUESTIONS

This study sought to explore eFWBNs with the primary research question being: What is the nature of an ICT-supported FWBN (eFWBN) in sub-Saharan Africa (Kenya and South Africa)? This question focused on the nature of eFWBNs and the outcomes from the interaction of the elements within them. Answering this question involved understanding the nature of actors within FWBNs, the nature of relationships within FWBNs, the nature of flow of resources within FWBNs, the nature of governance in FWBNs, the nature of external support for FWBNs, the nature of ICT usage within FWBNs and, lastly, the nature of contributions and benefits. To answer the research questions for this study, a literature review was conducted and different constructs relating to social network theory, entrepreneurship theories and theories on networks and women were identified. This resulted in the development of a conceptual model that was tested using the configurational theory lens. Data was collected and analysed using both qualitative and quantitative methods and the case study method served as the research strategy. Discussion of the primary research question is presented in the following section.

7.2.1 What is the nature of an ICT-supported FWBN (eFWBN) in Kenya and South Africa?

As highlighted earlier, to answer the (primary) research question(s) in this study, different network and organisational elements that could be present in an eFWBN were identified in the available literature. These elements were selected particularly from social network theory (SNT – Actors, Positions, Relationships, and Flow), network governance theory (Governance), women entrepreneurship theories (demography, networking approach and perception), economic theories (ICT) and theories on ICT. Social network theory served as the base theory on which other theories and constructs were built, in order to develop the conceptual model. While the SNT accounted for the core elements of a network, it was limited in providing understanding of other elements that could come into play in an eFWBN and even influence these core elements. Also, the SNT focused predominantly on nodal elements and influences (that is actors and relationships) (Mejias, 2006) and failed to address factors like governance, networking approach by women and ICT that different parts of literature show could

influence a network, especially a formal women business network. To address this limitation, the other theories were adapted to capture these non-nodal elements and explain the nature of eFWBNs.

The reader will recall the point made in Chapter 2, that SNT posits that within a network there will be actors, a connection between them which represents a relationship, and the flow between them – which will often involve some form of resources (Haythornthwaite, 1996; Kim and Sherraden, 2014). Actors within an eFWBN are expected to be women entrepreneurs who occupy different positions, have certain demographic characteristics and exhibit different networking approaches and perceptions. In addition to these three attributes, network governance theory posits that networks that are goal-oriented and operate as entities will be coordinated and undergirded by a model of governance. This mode of governance can be the participant governed model, the lead organisation model or the network organisation administration model (Provan and Kenis, 2008). Economic theories and theories on ICT use by women entrepreneurs posit that ICTs can be used as a means to provide and gain social capital and, also, ICTs can influence relationships and different aspects of a network (Bakos and Kemerer, 1992; Jamali, Voghouei and Nor, 2014; Ajjan et al., 2014). The findings of this study suggest that, indeed, actors, relationships, flow, governance, external support and ICTs are elements of a network and, when there is coherence amongst them, they yield positive outcomes for the network. The findings also support the equifinality rule that different configurations of these elements can result in positive outcomes for a network (Miller, 1987).

7.2.1.1 Nature of an ICT-supported FWBN (eFWBN) in Kenya

It has been stated that configuration theory posits that when organisational elements are well integrated and complement each other they would have attained a level of coherence and, as such, will result in positive and successful outcomes (Venkatraman, 1989; Van de Ven and Robert, 1985). The results of the cluster analysis showed that the networks in Kenya had attained the highest level of coherence amongst their elements and had thus attained a higher level of contribution to the development of women entrepreneurs and provided a higher level of benefits to their members. These networks enjoyed women entrepreneurs who were mostly young, in their 30s and were married. These women were also mostly business owners in the financing, insurance, real estate, business services and telecommunications sectors. Most of

these women had not been operating their businesses for longer than five years and were also quite new to being members of a WBN. These women were highly educated and perceived themselves as active network members who were instrumental in the network engagements. These women were also primarily interested in business relationships and reported that they had gained mostly business relationships from their networks. Bogren et al. (2012) and Sharafizad (2014) suggest that women who desire growth will often be proactive with networking and be business-oriented. The activeness of these women in networking and their desire for business relationships complemented and reflected in their agency to establish relationships and make contact with other network members. Borgatti and Halgin (2011) predict that an actor's agency within a network will often influence their networking approach and activity. Similarly, Watson (2011) found that women who desire growth or increased sales in their business exercised agency in establishing contacts and relationships in their networks. These women openly discussed their business operations and perceived networking as very important to their business development. Considering their desire to gain business relationships, it is not surprising that their business goals substantially influence their approach to networking. Having young businesses could also explain why these women are driven to apply and adopt strategies like networking to grow their businesses. Mitchelmore and Rowley (2013) and Ajumobi and Kyobe (2017) found that women who seek growth often have young businesses and as such pursue growth and take proactive approaches. Contrary to past observations (Gamna & Kleiner, 2001; Ibarra, 1993; Hughes et al., 2012), these women were not influenced by cultural beliefs or value systems when it came to whom they approached or formed relationships with within the network. These women did not rely solely on their networks for their business growth. This is another observation that was at variance with past studies regarding women's networking approaches (e.g., Hanson and Blake, 2009; Davis & Abdiyeva, 2012; Kim and Sheredan, 2014). These women engaged with other networks, professional organisations and the internet to gain resources that could be beneficial to them and their businesses. This is consistent with DeVita et al's (2014) argument that in this generation women entrepreneurs are becoming more driven and motivated and seek channels to improve themselves. The participation of these women in the network activities and their activeness in the network also complemented and reflected in their ability to not miss out on information within the network and have other members come to them to share resources. Their ability to seek out resources, exchange resources and establish and maintain relationships was demonstrated by their choice of ICT tools for networking. These women found ICTs to be very useful to them for networking. They used Whatsapp, emails,

Facebook, and mobile technology like mobile phones, tablets and mobile applications, suggesting that they were women on the move and made use of technology to eliminate time or travel constraints. In addition, the findings reflect that women adopt technology such as Whatsapp, Facebook and mobile phones to facilitate and mediate communication in relationships. Similar to these findings, Srivastava (2014) found that women adopted Whatsapp because it provided quick, immediate responses to forms of digital communication at very low cost and required little technical sophistication for its use. Research also shows that women use social media and mobile phones to consume and share information (Buskens and Webb, 2009; Ajjan et al, 2014; Masika, 2014). Kimbrough et al. (2012) also, found that women adopt technology as a way to mediate communication in relationships. Also, Farr-Wharton and Brunetto, (2007) argue that ICTs can provide help reduce or eliminate geographical, time and cost constraints associated with networking.

Turning the focus away from the members, as highlighted in the qualitative findings, the Kenyan eFWBNs operated under both the participant-governed model and the NAO model (Provan and Kenis, 2008). In these networks, women's social and personal values were enacted in the way they governed and sought opportunities and resources. The leadership determined the type of actors in the network through the membership criteria and selection. They also controlled flow because the provision of resources hinged heavily on their efforts to seek and acquire these resources. Also, they determined the way the resources were accessed by the members and distributed amongst them. The leaders of these networks were very involved in seeking and acquiring resources and tried to distribute these resources fairly and equally as highlighted in the following comment:

> *We partner a lot with developmental organisations, we've worked for the longest time with ILO. We've worked with UN women, UNDP, basically the UN body. We've also worked with trademark East Africa and we have also partnered with educational institutions because some of them have programmes for women entrepreneurs like mini MBAs sort of because we are also encouraging women to further their education*. – Head of Secretariat, eFWBN1

The leadership's effort to seek and acquire resources complemented their use of ICTs to facilitate and enhance their access to and provision of resources through timely, easy and affordable communication. Emails, Facebook and Whatsapp were also the most valued and used tools for network-level activities. They also made use of websites to drive and coordinate

the network activities and functions and this helped to eliminate geographical or cost constraints. ICTs were also used to manage their stakeholders by communicating through emails, engaging and enticing them through their websites and promoting the network and its activities via Social media (Facebook). The level of ICT use in this network and the way it is leveraged contradicts the dominant argument in past studies that women do not leverage ICTs or utilise them for network activities (ICRW, 2012; UNCTAD, 2014). In this study, not only were ICT tools leveraged, ICT served as the driving platform for the network's activities and existence. This finding is consistent with arguments in extant literature about ICTs being a useful and valuable resource for organisations (Drnevich and Croson, 2013). This is because ICTs can provide cost reduction, timeliness, convenience and improvement in access to information and consequently result in enhanced strategic decisions and improved productivity.

The ability of the leadership to manage external stakeholders efficiently showed in the ways they seek and gain resources in terms of funding, capacity building for members and policies and initiatives that benefit their members from external support. These networks partnered with developmental partners, educational institutions, government, individuals, private organisations and societal bodies to gain network-level resources and resources for their members. The involvement of FWBNs with other organisations and bodies for resources and support has been noted by other authors (Bierema, 2005; Delanoe, 2013; Huang et al., 2013). The commitment of the leadership to the network and its members also reflected in how often the members sought and received advice from the leaders. Some authors have argued that women networks do not usually contribute to the business development of women entrepreneurs, due to the heavy focus on emotional or moral support (Loscocco et al., 2009; Casserly, 2012; Vongalis-Macrow, 2012). However, in this case, these networks were highly focused on meeting the business needs of their members as indicated in the comment below:

> *We are going to have export promotion by expert persons in authority who will come and speak on how to access international market, what's the value chain […] We are partners with Cherie Blair and every year we have intakes of about 10 women for the mentoring programme. We have partnerships with USIU (United States International University Africa) and we already have the intake running for women entrepreneurs.* – Chairperson, eFWBN3

The evidence from the qualitative and quantitative findings shows that these networks contributed to the needs of their members through good leadership, efficient and significant use of ICTs and concentration on business needs and development of their members. The women members of this network also attested to deriving benefits from being a part of the networks, especially in terms of new business opportunities, new knowledge and skills for their development and heightened public profile. These are benefits that have resonated in past studies regarding benefits women entrepreneurs can receive from FWBNs (Greve & Salaff, 2003; Hanson & Blake, 2009; Davis & Abdiyeva, 2012; Sharafizad, 2014). The overall level of performance of the networks can also be attributed to the actors of the network. These women exercise agency, which is known to influence the type of resources or benefits gained. Their perceptions are favourable towards networking, their engagement is proactive and serious about their business development. These women have also keyed into the globalisation era and leverage ICT tools that provide access to social capital and resources, and help them maintain and establish their relationships and network engagement, while going about their daily lives and business activities. In sum, the Kenyan networks had achieved coherence amongst the elements in their network, with each element complementing the other; and as such achieved a high level of outcome in terms of contribution to the business needs of their members and benefits derived by their members.

7.2.2.2 Nature of an ICT-supported FWBN (eFWBN) in South Africa

At the network level

The results from the cluster analysis returned interesting findings about the members in the South African eFWBN. This network exhibited traits of different social and personal values expected of women groupings and organisations. As noted in the qualitative findings, at the network-level, the leadership operates using the participant governed model. The leadership is elected every two years from the pool of floor members. The governing body coordinates the network activities and engagements and determines the flow of resources and the type of actors present within the network. This finding is consistent with past studies regarding governance in FWBNs (Singh et al., 2006; Spring, 2009). The leadership determines the type of actors based on their membership criteria and indirectly by the type of actors they currently have. Although diversity in membership is desired, the network is predominantly representative of a particular race and the leadership ias taking action to change that. The

leadership influences the flow of resources firstly by the type of resources that are sought and acquired. In some cases, the resources are business-related, in other cases they are non-business-related. For instance, the talk at the monthly meeting the researcher observed was related to skin disease and dermatology. Some authors have argued that women do not always focus on business-related resources for their members (Loscocco et al., 2009; Casserly, 2012). The leadership in this network determines the flow of resources within the network by creating a platform that could encourage exchange amongst the members, and by engaging the members using social media and emails to communicate information and opportunities. This network leverages ICTs to the fullest, not just as a tool that facilitates or enhances certain activities or functions, but as an integral part of their strategy and the existence and operation of the network. This is because the network operates electronically and via the internet, except for their monthly meetings or workshops, which are done physically. The leadership of this network is very cognisant of the globalisation era and the advancements in technology. Hence, they do not shy from adopting tools that would keep them current and help them gain efficiency and a better impact on their members as indicated in one of the comments from the participants:

> *For me I'm in the game 'cos I do a bit of online marketing myself. So for me it plays a huge role, for instance, just recently we have redone our website and turned it into sort of an e-commerce option and we are now investigating doing some marketing automation to tie into our website and things like that.* – Committee Member, eFWBN2

This finding echoes Jenner's (2015) argument that organisations are keying into the use of technology in order to gain competitive advantage and be compliant with global changes. The network makes use of their website to advertise their members, to announce their events, to RSVP for events, to provide information to potential members, and to make payments where necessary. They also communicate frequently via email and have an active Facebook page, where information and resources in the form of opportunities are displayed/announced/posted. The use of ICTs help them reduce costs for operation, attain efficiency in communication and assist in accessing a wide reach of people without cost, geographical or time constraints. The use of ICTs also enable the provision of social capital to their members. Ajjan et al. (2014) argue that due to the ability of ICTs such as social media and messaging applications to encourage the sharing of information and resources at low costs and to a wider readership leads to increased social capital. Again, these women defy the

arguments that women are slow to leverage technology or make it a key strategy in networks (ICRW, 2012; UNCTAD, 2014). Sharifizad (2014) corroborates the finding that in this time and age, there are bound to be women who are 'technology-savvy'. Lengrand and Chatrie (2000) also argue that with the increase in technology advancement and access, networks are bound to start operating online. However, they caution that this cannot replace the need for physical engagements, because that, in its own way, fosters and enriches relationships.

This network relies on its members and individual connections to gain network-level resources like funds for the network and capacity-building for the members. They do not form partnerships with any external organisation or body or institution to gain resources as noted by the Chairperson in the following comment.

> *We do not get sponsorship from any international organisations or government. We get absolutely nothing. We rely on our members and It works out nicely… we seem to be giving value to our members with what we are achieving just through the money that we are raising at our meetings and through our raffles and our fund raising* – Chairperson, eFWBN2

This is surprising as most WBNs are said to exist or be formed and sustained based on the connections with external bodies that ensure they have resources like funding or business development programmes and initiatives that can be beneficial to women entrepreneurs within the network (Bierema, 2005; Delanoe, 2013; Huang et al., 2013).

At the membership level

At the membership level, the network seemed divided. On the one hand, members were pleased with the network and attested to contribution and benefits, while on the other hand, there was displeasure and the women indicated not deriving any benefits from the network. This finding is consistent with Westaby, Pfaff and Redding's (2014) arguments that while there might be empowerment and positive outcomes within a network, there could also be negative outcomes, such as unhealthy perceptions and feelings. It is surprising that while the quantitative findings reveal this difference in perceptions, the qualitative observations – for instance the participant observation or interviews with the management – did not show a disparity in perceptions of members. During the observed monthly meeting, all the attendees seemed pleased, involved and content as noted in the researcher's field notes. The differences

amongst the two groups within the network were not only related to the perception of the women entrepreneurs about the contribution of the network or the benefits derived, but were also evident in other aspects. Within the network, the group that reported a high level of contribution and benefits from the network represented more than half of the respondents from the network. The group mostly comprised women between the ages 31 and 50. These women were married and owned businesses in the financing, insurance, real estate, business services and telecommunications sectors. They were well educated and ran businesses older than 10 years. These women were new to being members of an eFWBN and attested to being active within the network and included in network engagements. These women desired friendly relationships more than business relationships, but they indicated they had gained mostly business relationships from their networks. These women had a high regard for networking and cared about cultural beliefs and value systems when interacting with other members. The fact that this influences their interaction could be as a result of the level of cultural, racial and value-tensions that are experienced in South Africa. Their activeness within the network was demonstrated by their agency regarding establishing relationships to exchange resources and to discuss their business operations. The inclusivity and centrality of these women to the activities of the network can also be seen in the fact that they do not miss out on resources and acquire resources as effectively as other members within the network. This finding is consistent with Borgatti and Halgin's (2011) argument that actors who are included or central usually have better access to resources and a better flow of resources towards them. The ability of these women to receive information and resources within a network that hinges substantially on ICT usage for communication and sharing of information reflected in their selection of the tool they found most useful for networking. They found the use of emails the most useful for networking, followed by mobile phones, Facebook and lastly Whatsapp. (The choice of emails could be as a result of the nature of their professions that require more formal modes of communication and interaction). Past studies have found that women use Facebook and Whatsapp for sharing information and to access beneficial resources for their businesses (Indrupati and Henari, 2012; Srivastava, 2014). These women entrepreneurs were very happy about the general contribution of networks to the development of women entrepreneurs and the benefits they had derived, even though funding was not one of the benefits. (This is one resource that seems to not be readily available to women entrepreneurs in these networks). They also seemed to have a good view of the leadership of the network and had sought and gained resources and help from the leadership.

Within the network, the group of women who reported a low level of contribution and benefits from the network comprised mostly women who either owned their business or were employees holding top positions in the organisations they worked for. They were aged 41 and over and were mostly married. These women had businesses in the community, social and personal services sectors, which had been running for over 10 years. Some of these women were active within the network and felt included in the network engagements, while some of them reported feeling excluded from the network engagements and perceived themselves as passive in the network. Most of the women were very new to networking and seemed to care more about friendship relationships in comparison to business relationships; however, they had gained both relationships from being part of the network. These women did not have a high regard for networking and did not apply agency in establishing relationships and making contacts within the network. This could be because of their shyness or inability to break into the friendships and circles that existed already within the network. Similar to these findings, past studies have found that women's personalities and perceptions often influence their interactions in networks (Ibarra, 1993; Gamna & Kleiner, 2001; Gordon; 2014). Their inability to form relationships and their passiveness or excludedness, in some cases, are probably why they also did not have resources flow to them or why they sometimes missed out on information and resources within the network. Borgatti and Halgin (2011) argue that actors who are excluded or passive within a network are less likely to gain resources. Sharafizad (2014) also argues that women's low perception of networking or inability to network proactively will prevent them from gaining resources. Considering the networking approach and the nature of flow amongst these women, it is no surprise that they did not engage with most of the ICT tools. These women found only emails and mobile phones useful for networking, indicating that they were not very 'technology-savvy' or -inclined. This could explain why they did not get resources as much as other women within the network and also why they did not leverage ICTs to engage with other members within the network. These women did not seem to have very good rapport with the leadership of the network and had negative comments regarding what they were not happy with within the network. For instance, one of the respondents felt the network could become more business-oriented as opposed to being a social or charity group.

Contrary to the qualitative observations, the quantitative findings for this network brings to light a lack of coherence amongst the elements of the network, hence a division in the perception about their contribution and benefits. The differences in perception of the members

could testify to the double-sided goals of the network, where on one hand, business-related developments are pushed forward, while on the other hand, the focus seems to be on personal and social needs. The lack of coherence and division in perceptions could also be linked to the lack of agency and negative perceptions of the displeased group within the network. Also, most of these women who are displeased are passive or new, or inconsistent as participants, hence they do not gain as much as the other women in the network. In addition, considering the network is highly driven and supported through ICTs, the low level of 'savviness' in technology usage amongst this group of women could cause them to miss out on information or resources from other channels like Facebook and Whatsapp like the other women within the network. Perhaps, with better agency, better involvement in the network and more use of more ICT tools that can aid in networking and assessing network resources, these women could begin to enjoy being members of their network and have better perceptions. Also, an increase in the focus of the leadership to business-related resources could make the difference for these women entrepreneurs. It is important that the leadership carries all its members along and sees to it that those who are new or with shy personalities do not feel left out and, as a result, drop out of the membership of the network.

7.3 TESTING THE PROPOSITIONS

The propositions for this study were tested using Sarker and Lee's (2003) approach. This involves using pattern matching and wording propositions in an "if…then" format. This approach is widely used in social science research, particularly in instances where the research strategy is the case study method (Hyde, 2000; Castells et al., 2007). The propositions are reworded to reflect the "if…then" approach. The extent to which they are supported or otherwise is based on the findings in the previous chapters, particularly the cluster analysis results.

> *P1: If there is strong coherence between the core elements within an eFWBN and the operating and support mechanisms, then the contribution and benefits will be greater.*

Configurational theory posits that when organisations (in this case eFWBNs) attain coherence amongst the elements within them, the stronger the whole will become and the greater or

more improved the outcomes and performance of the organisation (Meyer et al., 1993; Fiss, 2007). The findings from the cluster analysis (see Table 6.4, Chapter 6) show that the Kenyan networks contributed more to the development of the women entrepreneurs and the benefits derived by them. This suggests that they had achieved coherence amongst the elements within the network. To wit, the type of actors, the relationships, the flow of resources, the governance, the influence of the external support and the way ICTs were leveraged all complemented each other and this resulted in a good level of outcome. Based on this evidence, P1 is accepted.

> *P2: If the ICT usage by members of an eFWBN is high, then the contribution and personal benefits will be high.*
> *P2b: If the ICT usage by an eFWBN is high, then the contribution and personal benefits will be high.*

Due to global changes and technology advancements, organisations are expected to plug in and become technology-inclined to gain competitive advantage and meet the needs of their stakeholders in more efficient ways (Lengrand & Chatrie, 2000; UNCTAD, 2014; Kyobe et al., 2015). ICTs have been found to offer strategic improvement and effectiveness, and provide ways to reduce cost, eliminate time and geographical constraints, and provide social capital (Bakos and Kemerer, 1992; Drnevich and Croson, 2013). These advantages are of particular importance to networks. Hence, for networks to gain these advantages, they need to leverage ICTs. The findings from the cluster analysis (see Table 6.4, Chapter 6) reveal that the Kenyan networks leveraged the use of ICTs at the membership level and at the network level, they were altogether more technology inclined. They had a higher level of contribution and benefits in comparison to the South African network. Based on this evidence, P2 and P2b are accepted.

> *P3: If the flow of resources to and from members within an eFWBN is high, then the contribution/benefits of eFWBNs will be high.*

Extant literature suggests that the greater the flow of resources within a network and amongst actors, the more benefits will be derived (Lin, 2000; 2005). Networks are expected to provide beneficial resources to their actors and for FWBNs, this expectation is even greater (Davis & Abdiyeva, 2012). Apart from providing resources, these networks are also expected to create avenues that will ensure that these resources are distributed and accessed by the actors in the

network (Human and Provan, 2000). The networks in this study ensured that they distributed and provided resources to their members. Beyond the efforts of the networks to distribute and provide resources, members are expected to exchange resources amongst each other, and no one person or group should be left out of the flow within the network. However, this is not always the case, what with some actors feeling excluded and not gaining as many resources from their network. The evidence from the cluster analysis results (see Figures 6.2 and 6.3, Chapter 6) show that the women in the Kenyan networks receive a good level of flow of resources to them and, in comparison to the South African network, they had a higher level of flow of resources. Following these findings, P3 is partially supported.

P4: If the weak ties within an eFWBN are high, then the business benefits derived by women in eFWBNs will be high

Several studies have posited that the more weak ties an actor has, the more they are likely to gain resources that are beneficial to their business or professional development (Kim, 2014; Davis, 2012). In some cases, women seek strong ties because they believe they will gain emotional and personal support from such relationships and for this reason women have been known to form informal networks (Hanson and Blake, 2009). For women entrepreneurs to gain, they are advised to join FWBNs. This is because FWBNs are meant to provide more weak ties and thus, more business benefits will be derived. The majority of women entrepreneurs in both networks desired business relationships and had gained more business relationships, suggesting the existence of more weak ties (see Table 6.3, Chapter 6). However, some of the women in the South African network reported that they had not gained business-related benefits from the network (see Table 6.4, Chapter 6). A plausible reason for this could be that the women felt excluded from the network. Also, their lack of agency in establishing relationships and gaining resources could have limited their chances of gaining business benefits from the network. Some of the women also reported the network was not particularly focused on business-related benefits. Based on these findings, P4 is not accepted.

7.4 CONCLUSION OF THE THESIS

This study sought to examine eFWBNs in order to provide more understanding of and insight into them regarding their nature within developing countries context. To achieve this goal, a conceptual model based on different theories, including social network theory (SNT), network governance theory, women entrepreneurship, economic theories, and theories on ICT, was developed. The selected variables for the model were actors (positions, demography, networking approach and activity), relationships, flow of resources, ICT, governance and external support. To examine eFWBNs and test the research model, the case study method was adopted as the research strategy and three cases were selected for the study. Data was collected from three networks (two in Kenya and one in South Africa) using interviews, questionnaires, participant observation and documentation. The data collection resulted in five interviews with the management of the networks and eighty–five responses from the members. For the qualitative data, the data analysis involved thematic analysis. For the quantitative data, the data analysis involved reliability tests, descriptive statistics, quantitisation and cluster analysis.

The findings from both the qualitative and quantitative data provided interesting observations regarding eFWBNs. Most interesting was the division within one of the networks where on the one hand the members seemed satisfied and included in the network activities, but on the other hand, there were members who felt excluded and were dissatisfied. The findings also both corroborated and differed from some of the observations and arguments in extant literature. For instance, past studies have argued that women entrepreneurs and FWBNs are slow to leverage technology, but the evidence in this study indicates otherwise. Not only do the FWBNs leverage technology, they also exist and operate because of the features ICTs afford them. The high use of ICTs such as Whatsapp, Facebook, emails and mobile phones within eFWBNs support the observations in past studies that women adopt these technologies to mediate communication, facilitate their relationships and consume and share information (Kimbrough et al., 2012; Srivastava, 2014; Ajjan et al, 2014). This is because these type of technologies are often easier and cheaper to use and help them mitigate geographical and time constraints (Farr-Wharton and Brunetto, 2007; Masika, 2014). These technologies have also been found to help women who have to juggle between work and home to achieve work-family balance (Masike, 2014). The major theoretical contribution

of this study is the adoption of theories other than the conventional social network theory to understand the phenomenon. This approach mitigates the shortcomings of SNT and advances knowledge about the influence of other elements that had previously not been integrated to understand FWBNs. On the practical side, this study provides insight to practitioners and solution-providers to women entrepreneurs and women-related initiatives regarding factors that impact on women entrepreneurs' development within a FWBN. This knowledge can guide practitioners and government to better assist women entrepreneurs within developing countries by taking into consideration the uniquely shared issues for women entrepreneurs and providing more goal/need-specific initiatives and programmes. The findings can also guide women leaders and practitioners in proffering improved solutions in terms of leveraging ICTs to enhance and facilitate the activities of these networks.

Lastly, this study has contributed to the scant knowledge regarding the nature of FWBNs and ICT use within FWBNs particularly within the context of developing countries. Consequently, researchers and practitioners can now have better informed views and understanding regarding elements that impact on these networks and their contribution to the development of women entrepreneurs.

7.5 THEORETICAL AND PRACTICAL CONTRIBUTIONS

The major aim of this research was to provide insight into and understanding of the nature of eFWBNs within sub-Saharan contexts – specifically Kenya and South Africa. The findings of the study make both theoretical and practical contributions. These contributions are highlighted in the following sub-sections.

7.5.1 Theoretical contribution

To increase understanding of and insight into eFWBNs and their level of use of ICTs, this study adapted the social network theory (SNT). To overcome the shortcomings of SNT, other theories that explain the different aspects of eFWBNs were reviewed (see Figure 2.9, on p. 66). Some of these theories include economic theories, governance theories, network theories,

entrepreneurship theories and theories on ICT. These theories were integrated into a theoretical framework that guided the development of the conceptual model. The process of integration involved an extensive review of available literature on the subject and the identification of gaps and overlaps. By taking note of the common concepts in the extant literature (directly or indirectly), the new model synthesized the various concepts that can exist within and influence an eFWBN to advance understanding of eFWBNs. In other words, by examining studies and theories on entrepreneurship, women entrepreneurship, networks and formal organisations, the common concepts that seem to underlie the observations in literature were identified and integrated into one theory.

The conceptual model comprises the following constructs: actors, relationships, flow, governance, external support and ICTs. Literature showed that these elements interplay and as such, a linear perspective proves to be insufficient to measure this interplay and its impact on the contribution to the development of women entrepreneurs and the personal benefits derived by them. Extant studies have examined these elements in isolation, revealing a paucity of research on the nature of eFWBNs as a whole and the impact of the interplay on the outcomes of eFWBNs. Thus, to test this interplay and its impact on the nature and outcomes of eFWBNs as illustrated in the conceptual model, the study took a configurational theory perspective. Configuration theory posits that, to understand an organisation, the elements need to be examined as a whole, and not in parts. This view is based on the premise that the elements within an organisation will interplay and result in certain patterns that can help explain the outcome and performance of an organisation. Thus, to measure the relationships between elements in a network and gain insight into how these elements combine to produce good outcomes for the network, the configurational theory was adopted. The integration of the theories and the use of the configurational theory have advanced knowledge in the following ways:

1. Most studies have neglected the influence of governance on the operation and activities of women networks and the elements within them. This study has shown that for eFBWNs, the governing body plays a very significant role within the networks and determines how the rest of the elements interact, or their nature within the network (directly or indirectly). For instance, the efforts of the governing body determines the type of resources that exist within the networks and whether these resources even exist at all. The leadership also determines how resources are accessed

and distributed within the network. The findings also show that the governing body determines the use of ICTs and the nature of support that is received from external parties.

2. Extant literature on women networks have argued that they are often reliant upon or influenced by external support in the networks. The findings in this study have revealed the nature of external support. In the Kenyan networks, although they seek partnerships that will provide resources for their members and assist with funds for sustainability, the formation and operations of the networks is independent of these external bodies or organisations. In the South African networks, there was hardly evidence of any involvement or influence of external organisations, even for funding and resources.

3. The inclusion of ICTs in examining eFWBNs provides insight into the nature of use of ICTs in this network. The findings also show that technology advancements and changes have created an avenue for these networks to operate online and eliminate costs of operation. This also presents new ways of conceptualising women networks and introduces new dynamics and complexities that should be given more attention for the advancement of network research and women entrepreneurship.

4. As opposed to using the linear approach to study networks and networking by women within these networks, as existing studies have done, this study contributes to theory by showing how a bidirectional approach enhances understanding of the interplay within a network or organisation. The use of the configurational approach showed that, truly, the combination of the various elements does influence the whole and the outcomes. For instance, the findings show that the knowledge and attitude of the leaders towards ICTs impacted on the use of ICTs. Also, the agency of the actors and their positions within the network impact on the flow of resources and the nature of relationships within the network.

5. This study also showed the importance of examining whole networks to understand how women entrepreneurs interact and go about their business-related activities. Most studies have examined networks from an ego perspective (Kuada, 2009; Bogaards et al., 2011; Dawsan et al., 2011; Omwenga et al., 2013) and have neglected the question

of how other factors and whole networks can influence the development and performance of women entrepreneurs. This study and the findings serve as a step towards filling this gap.

6. Past studies on networks and women entrepreneurs have often fallen within the positivist or interpretivist philosophical stances (Greve and Salaff, 2003; Bierema, 2005; Kuada, 2009; Bogaards et al., 2011; Dawson et al., 2011; Kim, 2014). Consequently, these studies have adopted either the quantitative or the qualitative approach to research. This either-or approach has often presented weaknesses and limitations in exploring the various aspects of the eFWBN phenomenon. By adopting the realist philosophical stance and the epistemological view that allows multiple perceptions and methods to study a phenomenon, this study has advanced knowledge on how to merge the research methods, thereby providing richer and deeper insight into and understanding of eFWBNs. The use of multiple data sources helped to gain as much insight as possible into the various elements within an eFWBN and the entire network.

7. Extant research on women networks and entrepreneurship have been mostly based in developed countries with little insight regarding those within the sub-Saharan context. In addition, some studies completely neglect context and as such fail to reveal possible differences or similarities across networks in sub-Saharan Africa. The application of the case study method helps to examine eFWBNs within their contexts and the choice of multiple cases provides broader insights into the different dynamics and complexities that could exist within eFWBNs. For instance, the findings revealed that while networks in Kenya rely on external support for funding, sustainability and legitimacy, the networks in South Africa have a different attitude towards this approach. Thus, this study contributes to theory by providing knowledge of eFWBNs within the sub-Saharan context and illuminates the value of the case study method in instances where the contexts are closely aligned and the need for comparison is apparent.

8. In terms of data analysis approaches, this study makes a significant contribution to knowledge. The use of quantitisation for mixed methods research is yet to gain popularity in research, especially within the social science and IS community. This study has provided evidence on how to transform qualitative data into quantitative

data to gain inferential and statistical power. Quantitisation provided a way to fully integrate qualitative and quantitative data to test the research model using cluster analysis. Lastly, this study also shows the value of cluster analysis in deriving configurations or patterns amongst a set of variables that interplay through the grouping of responses into distinct clusters. In this study, cluster analysis helped to identify how actors, relationships, flow, governance, external support and ICTs are combined in the different eFBWNs and how this impacts on their contribution to women entrepreneurs and the personal benefits they derive.

7.5.2 Practical contribution

The findings of this study have made practical contributions to different stakeholders regarding eFWBNs. These contributions are as follows.

By deviating from the norm of examining networks in developed or western countries, this study has extended understanding of eFWBNs in the contrext of sub-Saharan and developing countries. The findings have shown that issues such as race, diversity, provision of business-related resources, and reliance on external support for funding are major concerns to the eFWBNs. Before creating policies relating to women entrepreneurs, it is important that governments and practitioners consult leaders of FWBNs to gain insight into areas that need attention and intervention. In that way, programmes and initiatives can be better suited to meet the needs and mitigate the challenges women entrepreneurs face. The governing body seems to drive and undergird the activities and the elements within the networks. Thus, it is important that practitioners offer support to the governing body and help them improve, since their efforts and attitudes can greatly impact on the development of their members and the performance of the networks (Singh et al., 2006; Provan and Kenis, 2008). There seems to be heavy reliance of some the eFBWNs on external support for sustainability, either through funding or programmes for their members. Organisations that provide assistance (external support) to eFWBNS should take note of their importance to these networks and see to it that continuous partnerships and assistance are maintained. In addition, practitioners can devise ways in which these networks can attain sustainability (through governance) in order to eliminate the heavy reliance on developmental organisations or other bodies for sustainability. In addition, policies that check the activities and goals of networks should be created. This will ensure that the interests of current and potential members are protected. As

evident in this study, even within a seemingly successful and well-performing network, there can be members who feel excluded and dissatisfied. Thus, it is important that the leadership in networks constantly and consistently check that all members are carried along within the network. By carrying members along, they can maintain a good level of membership and encourage more women entrepreneurs to partake in the networks. Furthermore, the lack of business-focused activities has often been a cause for concern for some women and as such they have been discouraged to partake in FWBNs (Casserly, 2012; Vongalis-Macrow, 2012). Some of the respondents indicated the need for more business-focused activities and programmes in the networks. Leaders of FWBNs should ensure that there are more business-related activities for the members — after all, this is what the core and goal of the network should be. At the very least, the leaders of these networks could create a balance between social/personal and business-related activities and programmes.

Considering the level of use of ICTs and acceptance in these networks, practitioners can start to proffer more ICT tools and solutions, such as online business forums and applications that will not only help at the network level but also at membership level for their business ventures (UNCTAD, 2014). In addition, tailor-made ICT tools could be created for women and networking activities. For instance, an online networking forum like LinkedIn can be developed particularly for women entrepreneurs, whereby those with shy personalities can further communicate and engage or even initiate interactions and relationships that can aid their businesses (Ajjan et al., 2014). More training and education can also be provided for women entrepreneurs who are currently not leveraging ICTs or who are finding it difficult to do so (ICRW, 2012).

Existing research has highlighted the importance of women entrepreneurs participating in eFBWNs as a means to gain resources that may not otherwise be easily accessible to them (Greve & Salaff, 2003; Hanson & Blake, 2009; Redd, 2014; Kim & Sheredan, 2014). To encourage participation of women entrepreneurs, eFWBNs and external organisations can develop more ways to help women mitigate the issues of cost, time, work-family balance and travel. ICTs can assist in this case, whereby women can participate in meetings and activities electronically, even beyond the boundaries of the network (Masika, 2014). The results in this study showed that most of the actors in the eFWBNs were either just starting their businesses, or had been running their businesses for a long time. These women entrepreneurs seemed proactive, driven and interested in pursuing activities that could aid their personal and

business development. Hence, women looking to be entrepreneurs can join eFWBNs to gain some of the benefits identified in this study, as well as establish relationships with women from various demographics for support, inspiration and mentorship. Research also shows that women entrepreneurs with new businesses often pursue aggressive business growth, while those with older businesses prioritise stability and guarding their market share (Mitchelmore and Rowley, 2013b). Networks and external organisations should consider demographic factors and organise specific programmes and activities that can account for and cater to the different needs of women entrepreneurs. The findings also indicated that within the networks, women entrepreneurs who applied agency in establishing relationships, and participated actively in the network activities, derived benefits and had access to better flow of resources (Borgatti and Halgin, 2011). Thus, it is important that women entrepreneurs are aware of how their individual efforts ensure that they gain resources within the network and translate these resources into use for their businesses.

A final observation in this research project is the limited level of cross-national interactions between eFWBNs. Leaders of eFWBNs can take advantage of ICT tools and platforms to engage and interact with networks in other countries. A link between the networks can result in a link between their members, different businesses and consequently, partnerships and collaboration could be born across borders. In addition, relationships that go beyond borders could result in international markets for the women entrepreneurs, which in turn would improve the economy at large. Governments could aid such collaboration by creating policies and legislation that encourage seamless cross-national interactions, connections and transactions between women entrepreneurs. Practitioners could also develop ways in which cross-national collaborations and partnerships could be made possible and strengthened beyond their current state – not just at the network-level, but at individual membership level as well.

7.6 STRENGTHS AND LIMITATIONS OF THE STUDY

No one research project can cover every possible solution to a research issue. For this reason, the researcher acknowledges that there are strengths and limitations to this study. These strengths and limitations are discussed in the following sections.

7.6.1 Strengths of the study

The strengths of this study relate to the research contexts and use of multiple cases, the theoretical development and the methodology; particularly the use of mixed methods and the quantitisation technique. These are discussed below.

7.6.1.1 Research Contexts and use of multiple cases

Within the context of sub-Saharan Africa and developing countries, extensive research has been carried out on women's business activities, the way they network and their perception on networking. Research has also confirmed the existence of FWBNs by recommending them to women entrepreneurs. However, there is a paucity of research on what the nature of these networks are, or the elements within them and how they achieve their goals and objectives. It is important that these organisations and platforms directed at aiding the development of women entrepreneurs tap into and keep abreast of global changes that can influence the growth and performance of the women's businesses. The findings of this research have not only provided insight into the nature of one FWBN but three in different countries, highlighting the distinct and unique issues and complexities that past studies have not examined. For instance, while the networks in both countries adopt ICT tools for their operations and activities, the issues of concern to them varied. The Kenyan network seemed more business development driven while the South African network seemed to include both business and personal/social development to their programmes. Also, the South African network seemed concerned about diversity and the representation of all races, but the Kenyan network did not have such issues. The findings also revealed how there can be a division amongst the members regarding the benefits being derived and the satisfaction with the networks, as was the case in the South African network. The findings have also illuminated the use of ICTs in these networks and outlined the way the leaders of the networks keep abreast of global and technological changes for the benefit of their members.

7.6.1.2 Theoretical development

The theoretical strength of this research lies in the combination of different, multidisciplinary theoretical perspectives to examine eFWBNs and the use of ICTs within them. Most studies on networks and women entrepreneurship have only focused on actors and relationships and resources. Studies on women entrepreneurship and networking have also provided little understanding about the use of ICTs within a whole network context. In this study, other factors (such as governance, external support and ICTs), that could impact on FWBNs, were considered and selected to expand and advance the understanding around FWBNs. This led to the integration of different theories and the adoption of the configurational approach to test the research model. Extant studies have mostly applied the configurational approach to organisational studies (for corporate firms), but for this study it was specific to networks. The configurational approach provided insight into how the integration and interaction of elements in an eFWBN resulted in contribution and benefits for women entrepreneurs. The aforesaid approaches provide new insight and views around the nature of FWBNs and how they leverage ICTs.

7.6.1.3 Methodology - Mixed methods approach and quantitisation

This study has contributed to the scant body of work on mixed methods approach within the IS context by showing that the weaknesses of each approach can be mitigated through the strengths of each approach. The use of mixed methods for data collection provided richer and deeper understanding of the phenomenon. In addition, the methodology adopted highlighted how paradigm issues or constraints can be overcome by adopting a philosophical approach that accepts the use of mixed methods (Realism). This study also highlighted the possibility of merging and synthesising qualitative data with quantitative data through quantitisation. This approach showed that statistical power can be attained by converting qualitative data to quantitative data for further inferential statistical tests. Lastly, the use of cluster analysis helped to derive patterns about the dynamics and complexities within eFWBNs by showing how the elements combined within each network.

7.6.2 Limitations of the study

This research project is not without limitations and the researcher acknowledges the limitations present in this study and discusses them in Table 7.1 below. Despite the limitations, this study provides useful and interesting insights for researchers, practitioners, women entrepreneurs and women organisations. The findings can also guide future studies in different or similar contexts especially where eFWBNs are concerned.

Table 7.1: Limitations of the study.

ASPECT OF STUDY	LIMITATION DESCRIPTION	DISCUSSION
Sample size	Sample size of 85 for statistical analysis	Researchers argue that a higher sample size increases the confidence level and reduces the margin of error for the representation of the population. However, in accordance with Saunders et al.'s (2009) guideline, this study ensured that a sample size of more than 30 was attained to carry out the statistical tests.
Selective theories	The use of selective multidisciplinary theories	The choice of specific theories could have unintentionally excluded other theories that could have been useful for the understanding of this phenomenon. This may have created a limitation in scope. Nonetheless, the use of multiple theories that were not merely focused on the norm for network, entrepreneurship and IS research reduced the limitation of using one theory or focusing on nodal-elements like SNT posits.

Cross-sectional timeline	Data collected at one instance in time.	The study was conducted at a particular instance and over a short period of time and as such, changes that may occur over time were not captured. Nonetheless, the findings provided insight that shed light on the current situation of FWBNs and can help make projections and predictions that can assist in further or future inquiry. The use of variables from past studies and theories also helps establish those theories and their application or relevance to similar phenomena.
Data analysis techniques	The conversion of qualitative data to quantitative data	The conversion of qualitative data to quantitative data usually presents some bias as noted by Onwuegbuzie and Johnson (2006). However, to address possible biases, the guidelines proposed by Sandelowski et al. (2009) were strictly adhered to. This involved, for instance, the use of ordinal scales as opposed to dichotomous scales, which can result in some lost meaning for the data.

7.7 RECOMMENDATIONS FOR FUTURE RESEARCH

The findings and limitations of this study have led to the following recommendations for future studies:

- As opposed to focusing on ego networks, future studies can now examine whole networks using the research model developed in this study. The research model should be tested in different contexts to examine eFWBNs – even beyond Africa. Such research can provide new and interesting insights regarding the dynamics and complexities within eFWBNs in other contexts and highlight similarities or differences to the findings in this study. Such studies can also shed light on the perceptions of women regarding FWBNs and networking. Future research can also highlight how

ICTs are leveraged by women entrepreneurs in other contexts where networking is concerned.

- Future studies can endeavour to validate the research model by using more cases and more respondents. This can increase the validity of generalising the findings to a wider population. Research on networks can adopt the research model to examine elements apart from the conventional network variables – that is, governance, ICTs and external support. This study served as one of the few attempts to increase knowledge around these aspects in eFWBNs. Further research could, for instance, provide more understanding about other forms of network governance models in eFWBNs and how they are enacted. The use of ICTs can be further investigated to delve into ways in which other networks leverage ICTs and the attitudes of networks to global and technological advancements.
- Future studies could go a step further and test this model in situations that do not involve women at all. Such studies can advance knowledge on other formal networks that are not women-focused, to reveal possible differences or similarities between those networks and eFWBNs. For instance it would be interesting to know if men's business networks share similar issues regarding their networks.
- A longitudinal study could be conducted to identify changes that may occur over time with eFWBNs, considering the constant rapid changes in business environments, society and technology.

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APPENDICES

Appendix 1 - Cover Letter

Dear Madam,

In terms of the requirements for completing a Doctoral Degree in Information Systems at the University of Cape Town a research study is required. The researcher, in this case Deborah O. Ajumobi, has chosen to conduct a case study entitled *"An exploration into ICT-supported Formal Women Business Networks (FWBNs) in sub-Saharan Africa".* The researcher would like to request permission to conduct this case study at your organization. The objective of the research is to gain understanding of the nature and structure of ICT-supported formal (professional) women business networks in sub-Saharan Africa, their contribution to women entrepreneurs' development and their use of Information Communication Technologies (ICTs).

Your participation in this research is voluntary. All information will be treated in a confidential manner and used exclusively for the purpose of this study. No individual or organisation names will be recorded or published. Due to the nature of the study you will need to provide the researchers with some form of identifiable information however, all responses will be confidential and used for the purposes of this research only. You can choose to withdraw from the research at any time for whatever reason, in accordance with ethical research requirements.

The data collection method will be one-on-one interviews with a small group of the team/staff responsible for running and coordinating your network and questionnaires will also be served to the network members. The interviews will be conducted at a location best suited for you and will last for approximately one hour. If you are willing to participate in this study, kindly sign the attached form or indicate in an email and return to me at your earliest convenience.

Should you have any questions regarding this research, please feel free to contact me on ***+27 604 952 465*** or ***deborah.ajumobi@gmail.com***

Your participation in this study would be greatly appreciated, but is entirely voluntary.

Sincerely,

Deborah O. Ajumobi

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Appendix 2 - Participant consent form

Research Participant Consent Form

I, _____, consent to participate in the research on [research topic]

I am aware that participation is voluntary and that I may choose to withdraw from this study at any time, should I choose to do so.

_____ _____

Signature ***Date***

Appendix 3 - QUESTIONNAIRE (Women Network Members)

Section A: Demography

1. *Please tick one position:* ☐ Business owner ☐ Business Partner ☐ Business Manager ☐ Other_____
2. *Your current age:* ☐ <21 21 – 30 ☐ 31 – 40 41-50 ☐ 50 and above
3. *Marital Status:* ☐ Single ☐ Married
4. Please state your type of business/job description: _____
5. *Age of Business/or years of employment:* ☐Less than one year ☐1-2 ☐ 3-5 ☐ 6-9 ☐ 10 and above

6. Highest Educational Qualification:

☐ No Education ☐High School Certificate ☐ Vocational Certificate ☐ Diploma ☐University Degree and higher

Section B:

1) How long have you been in a women business network?
☐ Less than a year ☐ 1-3 years ☐ 4-6 years ☐ 7-10 years ☐above 10 years

2) Did you actively seek a business network to join? ☐ Yes ☐ No
2a) If above is No, How did you come about being a member of a business network
_____

3) How important is networking for your business?
☐ Not important at all ☐ Not very Important ☐ Important ☐ Very important ☐ Extremely Important

4) Why have you joined a women-only business network?
_____

Section C:

1) Kindly indicate the extent to which you agree or disagree with the following statements where ***Strongly disagree = 1, Disagree = 2, Fairly Agree = 3, Agree = 4, Strongly Agree = 5***

1	I openly discuss my business operations with my fellow network members	**1**	**2**	**3**	**4**	**5**
2	I rely on my network alone for my development and business growth	**1**	**2**	**3**	**4**	**5**
3	I share private life issues with network members	**1**	**2**	**3**	**4**	**5**
4	I make sure I establish relationships with network members to share resources and information	**1**	**2**	**3**	**4**	**5**
5	People within the network often come to me to discuss their business concerns	**1**	**2**	**3**	**4**	**5**
6	People within the network often come to me to share information and resources	**1**	**2**	**3**	**4**	**5**
7	I do not miss out on information/resources within the network	**1**	**2**	**3**	**5**	**5**

2) Tick which of the following sources you also get information or resources from apart from your women business network? (If yes, indicate what sources)

☐ Professional/Business people outside this network ☐ Other women business networks ☐ Government services ☐ Family members/friends ☐ None of the above (please specify) _____

Section D:

*1) Kindly indicate the extent to which you agree or disagree with the following statements where **Strongly disagree = 1, Disagree = 2, Fairly Agree = 3, Agree = 4, Strongly Agree = 5**:*

1	I believe business networks have an influence on a region as a whole	**1**	**2**	**3**	**4**	**5**
2	Business networks provide an opportunity to establish business contacts.	**1**	**2**	**3**	**4**	**5**
3	Business networks enable the sharing of ideas/resources/skills.	**1**	**2**	**3**	**4**	**5**
4	I learn a lot about new business opportunities from attending network meetings	**1**	**2**	**3**	**4**	**5**
5	Involvement in the network has provided me with additional funding or other resources.	**1**	**2**	**3**	**4**	**5**
6	Involvement in the network has allowed me to acquire new knowledge or skills for business/personal development.	**1**	**2**	**3**	**4**	**5**
7	Involvement in the network has led to a heightened public profile for my business/organisation(s).	**1**	**2**	**3**	**4**	**5**
8	I get information/resources as effectively as other members within the network	**1**	**2**	**3**	**4**	**5**
9	My cultural beliefs, value systems influence my interactions or way of networking	**1**	**2**	**3**	**4**	**5**
10	My business goals and needs determine why or how I network	**1**	**2**	**3**	**4**	**5**

2) What challenges do you face with networking? _____

Section E:

1) Please indicate what type of phone you use: ☐ Basic/Feature Phone ☐ Smart phone

2) Would you consider taking an ICT-related training for your business? ☐ Yes ☐ No

3) Kindly indicate the extent to which the listed ICT tools are useful in establishing/maintaining relationships with your network members:

	I do not use this at all /Not useful	**Slightly Useful**	**Moderately useful**	**Very useful**	**Extremely useful**
Mobile Phones	1	2	3	4	5
Email	1	2	3	4	5
Social Media (Facebook)	1	2	3	4	5
Social Media (Twitter)	1	2	3	4	5
Instant Messaging Apps (Whatsapp)	1	2	3	4	5

Instant Messaging Apps (BBM)	1	2	3	4	5
IPad/Tablet Devices	1	2	3	4	5
Mobile Applications	1	2	3	4	5

4) What other reasons/purposes do you use the above listed ICT tools for in terms of networking?
_____

Section F

1) Do you know all the members in your women business network? ☐Yes ☐ No ☐
Other/Comment:_____
2) Which of the following best describes you:
   a) ☐ Passive member ☐ Active member ☐ Other:_____
   b) ☐ Excluded from network engagements ☐ Included in network engagements ☐ Central to network engagements ☐ Other:_____

Section G

1) Which of the following relationships have you gained or maintained the most (please tick one)?
   ☐ Business ☐ Friendship ☐ Other:_____
2) Which of the following relationships is mostly important to you (please tick one)?
   ☐ Business ☐ Friendship ☐ Other:_____
3) Have you had to spend to gain or raise resources? ☐Yes ☐No

Section H

1) *Consider all work/business related problems you had during the past year and for which you couldn't find a solution yourself. How often have you been for advice to your business network management team?*

☐Never ☐ Daily ☐ Sometimes a week ☐ Sometimes a month ☐ Sometimes a year ☐
Other: _____

2) *Consider all situations of the past year in which you needed crucial information/data/software, etc. for your work/business, but you didn't possess it yourself. How often did you obtain this information with the help of each of the members of your business network management team?*

☐Never ☐ Daily ☐ Sometimes a week ☐ Sometimes a month ☐ Sometimes a year ☐
Other: _____

3) What roles do the executive committee and those running the network play in relation to your personal development or business operations and performance?
_____
_____

4) What can be improved or changed within your women business network?
_____
_____

- Please if you would be willing to participate further with a short follow-up interview, kindly state your name and contact details below and specify convenient time(s) and day(s)

Name	
Email and/or Phone Number	
Best Time and Day	

THANK YOU FOR YOUR TIME ☺ !

Appendix 4 - Interview questions

(Network Analysis – Executive Committee/Network Management team)

Section A: Network History and Background

1) Please could you tell me about your background, and about how you started this network or how this network started if you were not here at the beginning?
   - Personal/individual work in making it happen
   - Growth since network started
   - Why women-only business network

Section B: Network Membership

2) What procedures are followed when someone becomes a member of your network?
   - Evaluation criteria
   - Membership Requirements

Section C: Network Structure

3) What is the culture and climate within the network?
   - How do the network director and network management team relate to each other/other network members?
   - How do the different actors interact with one another? (Are there certain groups that are more vocal/dominant than others?)
4) Does the focus of attention of different actors vary according to their social positions?

Section D: Network Operation/Coordination

5) How do you ensure that you have and maintain cooperative relationships with your network members and external stakeholders?
6) Would you say there is trust amongst the network members? How do you ensure or encourage trust within the network?

Section E: External Stakeholders/Influence

7) How important would you say networking is for women entrepreneurs and how seriously do people take women business networks?
8) What individuals/ groups and organisations are most closely involved in the work/operations of your business network?

- Their roles/what do they bring to the table (e.g. do they provide training, professional advice, loan schemes, funds, etc.)
- Who/ which of these individuals/groups and organisations are most important?
- Challenges in engaging them and how these challenges have been mitigated?

9) Are there any individuals or groups who are not so closely involved, but should be?

10) What role does local context, both in terms of history and politics in the locality, play in emerging relationships, working with external stakeholders and the network activities?

Section F: Resources offered/Services rendered

11) How does your network ensure that network members gain adequate resources for their businesses and how do you address the specific issues/goals/needs of your members and women entrepreneurs? (Any challenges in achieving this?)

Section G: Use of Information and Communication Technology (ICTs)

12) How do you engage with ICT in your network? (in terms of mentoring/coaching; disseminating findings; promoting awareness of women's issues; soliciting input/feedback)
13) Are information or services to members available online or via any other ICT tool? (If yes, is this done in a gender-sensitive manner (taking into account the digital and technical literacy level of women members?)

Section H: Challenges

14) How satisfied are you with the current state of the network?
    - What challenges/concerns have you encountered in running this network?

15) Are there any particular aspects of the environment in which your network works that are especially challenging to the objectives of the network? For example, policy structures, gaps between organisations, expectations of different network members? In an ideal world, how would these be different? In the real world, how can you work around these?

Is there anything else you think might be of interest to me, but which I haven't mentioned?

THANK YOU FOR YOUR TIME!

Appendix 5 - Proof of Ethics application and approval

UNIVERSITY OF CAPE TOWN
FACULTY OF COMMERCE
Igniting Knowledge and Opportunity

Commerce Faculty Ethics in Research Application Form

Any person planning to undertake research in the Faculty of Commerce at the University of Cape Town is required to complete this form **before collecting or analysing data**. If any of the questions below have been answered YES, and the applicant is NOT an Honours student, the form should be submitted to the supervisor (where applicable) and from there for approval by the Faculty EIR committee: Ms Samantha Alexander (**samantha.alexander@uct.ac.za).**

It is assumed that the researcher has read the UCT Code for Research involving Human Subjects (Available at http://web.uct.ac.za/depts/educate/download/uctcodeforresearchinvolvinghumansubjects.pdf) in order to be able to answer the questions in this form.

Students must include a copy of the completed form with the dissertation/thesis when it is submitted for examination.

1. PROJECT DETAILS		
Project title: An exploration into ICT-Supported Formal Women Business Networks (FWBNs) in sub-Saharan Africa		
Principal Researcher/s: Deborah O. Ajumobi	**Email address(es):**	Deborah.ajumbi@gmail.com
Research Supervisor: Prof. Michael Kyobe	**Email address(es):**	Michael.kyobe@uct.ac.za
Co-researcher(s):	**Email address(es):**	
Department: Information Systems		
Brief description of the project: This research has the following objectives: to (1) understand the nature of ICT-supported formal women business networks (FWBN) in sub-Saharan Africa and their contribution to women entrepreneurs' development; (2) to examine the use of ICT in these FWBNs; (3) to identify the networking approach and activity of women entrepreneurs in FWBNs; (4) and lastly, to develop and test a conceptual model to investigate the structure of ICT-supported FWBNs. This framework will also help to identify the networking approach and activity of women entrepreneurs in FWBNs and the resulting outcomes.		

Data collection: (please select)

Interviews Questionnaire Experiment Secondary data Observation Other (please specify):

Documents

Have you attached a research proposal OR a literature review with research methodology? (please select) Yes

2. PARTICIPANTS		
2.1 Does the research discriminate against participation by individuals, or differentiate between participants, on the grounds of gender, race or ethnic group, age range, religion, income, handicap, illness or any similar classification?	YES	NO
2.2 Does the research require the participation of socially or physically vulnerable people (children, aged, disabled, etc.) or legally restricted groups?	YES	NO
2.3 Will you be able to secure the informed consent of all participants in the research? (In the case of children, will you be able to obtain the consent of their guardians or parents?)	YES	NO
2.4 Will any confidential data be collected or will identifiable records of individuals be kept?	YES	NO
2.5 In reporting on this research is there any possibility that you will not be able to keep the identities of the individuals involved anonymous?	YES	NO
2.6 Are there any foreseeable risks of physical, psychological or social harm to participants that might occur in the course of the research?	YES	NO
2.7 Does the research include making payments or giving gifts to any participants?	YES	NO

If you have answered **YES to any of these questions**, please describe how you plan to address these issues (append to form):

Affiliations of participants: (please select)

■ Company employees ■ Hospital employees ■ General public ■ Military staff ■ Farm workers ■ Students

■ Other (please specify): Business Network Members _____

Race / Ethnicity:

Are you asking a question about race/ethics in your questionnaire?

■ Yes ■ No

Which race categories have been used?

Have you included the option: "Prefer not to answer" as part of your race/ethics question?

3. PROVISION OF SERVICES

Does your research involve the participation of or provision of services to communities? NO

If your answer is YES, please complete below:

3.1 Is the community expected to make decisions for, during or based on the research?	YES	NO
3.2 At the end of the research will any economic or social process be terminated or left unsupported, or equipment or facilities used in the research be recovered from the participants or community?	YES	NO
3.3 Will any service be provided at a level below the generally accepted standards?	YES	NO

If you answered YES to any of these questions, please describe below how you plan to address these issues.

If your research is being conducted within a specific organisation, please state how organisational permission has been/will be obtained:

Research Participation request letters will be sent out to the business networks that have been identified for possible participation. These business networks will be asked to respond with confirmation of permission to participate in the research before the researcher proceeds to collect data from them. The research will abide by the terms or conditions regarding access to information that might be provided by any of these organisations.

Have you attached the letter from the organisation granting permission? (please select)

Yes No, but this **will be** obtained before commencing the research Not applicable

Are you making use of **UCT students** as respondents for your research? (please select) Yes No

If yes, have you contacted Executive Director: Student Affairs for permission? (please select)

Was approval granted? (please select) Yes No Awaiting a response

Are you making use of **UCT staff** as respondents for your research? (please select) Yes No

If yes, have you contacted Executive Director: Human Resources for permission? (please select) Yes No

Was approval granted? (please select) Yes No Awaiting a response

Contact Emails: Executive Director: Human Resources (**Miriam.Hoosain@uct.ac.za)**
Executive Director: Student Affairs (**Moonira.Khan@uct.ac.za)**

4. INFORMED CONSENT

What type of consent will be obtained from study participants?

- ○ Oral Consent
- ○ Written Consent
- ○ Anonymous survey questionnaire (covering letter required, no consent form needed)
- ○ Other (please specify)

How and where will consent/permission be recorded?

Have you attached an informed consent form to your application? ■ Yes ■ No

5. SPONSORSHIP OF RESEARCH

If your research is sponsored, is there any potential for conflicts of interest? NO
If your answer is YES, please complete below

4.1 Is there any existing or potential conflict of interest between a research sponsor, academic supervisor, other researchers or participants?	YES	NO
4.2 Will information that reveals the identity of participants be supplied to a research sponsor, other than with the permission of the individuals?	YES	NO
4.3 Does the proposed research potentially conflict with the research of any other individual or group within the University?	YES	NO

If you have answered **YES** to any of these questions, please describe how you plan to address these issues (append to form)

6. RISK TO PARTICIPANTS

Does the proposed research pose any physical, psychological, social, legal, economic, or other risks to study participants you can foresee, both immediate and long range? **(please select)**

■ Yes ■ No

If yes, answer the following questions:

1. Describe in detail the nature and extent of the risk and provide the rationale for the necessity of such risks
2. Outline any alternative approaches that were or will be considered and why alternatives may not be feasible in the study
3. Outline whether and why you feel that the value of information to be gained outweighs the risks

1.

2.

3.

I certify that I have read the the Commerce Faculty Ethics in Research policy (http://www.commerce.uct.ac.za/Pages/ComFac-Downloads**)** YES	■

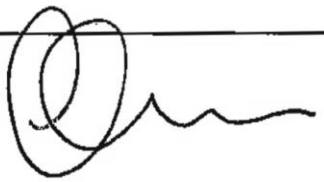
I hereby undertake to carry out my research in such a way that

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

Signed by:

	Full name and signature	Date
Principal Researcher/Student:	Deborah O. Ajumobi 	14/12/2015

This application is approved by:

Supervisor	Prof Michael Kyobe	15/12/15
HOD (or delegated nominee – for all Honours Projects):		
Chair: Faculty EIR Committee (only for postgraduate research at Master and PhD level)		26/1/20

CHECKLIST	■ SELECT
A full copy of a research proposal or a literature review with methodology is attached in a separate file	✓ ■
Interview schedules / cover letters / questionnaires / forms and other materials used in the study are attached in separate files	✓ ■
Organisational consent letter / UCT student or staff approval letter	NA ■
On your cover letter to your questionnaire have you included the following? **1. The following UCT Logo** **2. A sentence explaining the aim of the research** **3. Sentences of a similar nature to below must be included in the cover letter or consent form:** **This research has been approved by the Commerce Faculty Ethics in Research Committee.** **Your participation in this research is voluntary. You can choose to withdraw from the research at any time.** **The questionnaire will take approximately X minutes to complete** **You will not be requested to supply any identifiable information, ensuring anonymity of your responses.** **Due to the nature of the study you will need to provide the researchers with some form of identifiable information however, all responses will be confidential and used for the purposes of this research only.** **Should you have any questions regarding the research please feel free to contact the researcher (insert contact details).** **4. Have you scanned in your signature for the last section of the form?**	■ ■ ✓ ✓ ■ ■ ✓ ■ ✓ ■ ✓ ■ **OR** ■ ✓ ✓ ■ ✓

Appendix 6 - Summary of measurement and sources

Constructs/Concepts/Variables	Sections/Items		Sources
	Questionnaire (W.M)	Interview Questions (MGT)	
Core elements within the network			
Actors	Sections A, B, C, F, G	Questions 1, 3, 5, 6	Haythornthwaite (1996); Borgatti & Halgin (2011)
Positions	Section F: Items 1-2		Borgatti & Halgin (2011)
Demography/characteristics	Section A: Items 1 - 6		Sharafizad (2014)
Networking behaviour of women members	Section B: Item 2; Section C: Items 1.1 - 1.4; Section D: Items 9-10		Bogaards, Klerk & Mostert (2011); McDade & Spring (2005); Sharafizad (2014); Mitchelmore & Rowley (2013)
Relationships/ Ties (Strong/weak)	Section G: All items	Questions 3, 6	Greve & Salaff (2003); Thaden & Rotolo (2009); De Lange et al. (2004)
Flow (Internal Resources)	Section C: Items 1.5 - 1.7; Section D: Items 8		Khayesi et al. (2014); Lockett et al. (2014); Thaden & Rotolo (2009)
Operating and support mechanisms			
Governing and operating body	Section H: All items	Question 1, 2, 5, 6	Sharafizad (2014); McDade & Spring (2005); De Lange et al. (2004); Lockett et al. (2014)
External Support	Section C: Items 1.2	Questions 7, 8, 9, 10	Sharafizad (2014); Lockett et al. (2014)
ICT (Mobile Tech, Internet, Social media, PCs)	Section E: All items	Questions 12, 13	UNCTAD (2014)
Outcomes from network			
Contribution (to W.E. Development)	Section B: Items 3 - 4; Section D: Items 1 - 3	Questions 11	Dawson et al. (2011); Lockett et al. (2014); Sharafizad (2014)
Personal Benefits (to W.E.)	Section D: Items 4 - 7		Dawson et al. (2011); Farr-Wharton & Brunetto (2007)

Appendix 7 - Summary of constructs and Source(s) of evidence they were sourced from

CONSTRUCTS/ CONCEPTS/ VARIABLES	SOURCE(S) OF EVIDENCE
CORE ELEMENTS WITHIN THE NETWORK	
Actors	Interviews
Positions	Questionnaires
Demography/characteristics	Participant Observation
NETWORKING BEHAVIOUR OF WOMEN MEMBERS	
Relationships/ Ties (Strong/weak)	Interviews
Flow (Internal Resources)	Questionnaires, Participant Observation
OPERATING AND SUPPORT MECHANISMS	
Governing and operating body	Interviews, Questionnaires, Participant Observation, Documentation
External Support	Interviews, Questionnaires, Participant Observation, Documentation
ICT (Mobile Tech, Internet, Social media, PCs)	Interviews, Questionnaires, Documentation
OUTCOMES FROM NETWORK	
Contribution (to W.E. Development)	Interviews, Questionnaires, Participant Observation, Documentation
Personal Benefits (to W.E.)	

Appendix 8 - Summary of the types of interviews and corresponding cases

RESPONDENT PROFILE	CASE	COUNTRY	INTERVIEW TYPE	TIMELINE
Executive Officer/Secretariat Head	FWBN 1	Kenya	One-on-One	March/April 2016
Chairperson	FWBN 2	South Africa	Via Skype	July 2016
Committee Member	FWBN 2	South Africa	Whatsapp	July 2016
Committee Member	FWBN 2	South Africa	Whatsapp	July 2016
Chairperson	FWBN 3	Kenya	Whatsapp	January 2016

Appendix 9 - Summary of cases and sources of evidence obtained

CASES	SOURCES OF EVIDENCE			
	Interviews	**Questionnaires**	**Participant Observation**	**Documentation**
FWBN 1	1	13	No	Yes (Website)
FWBN 2	3	59	Yes	Yes (Website)
FWBN 3	1	13	Yes	Yes (Website)
TOTAL	**5**	**85**	**2 Observations**	**3 Sources**

Appendix 10 - Case Study Protocol

EXPLORING ICT-SUPPORTED FORMAL WOMEN BUSINESS NETWORKS (eFWBNS)

Overview of Research

The objective of the study is to examine and observe ICT-supported FWBNs in sub-Saharan Africa in order to unpack their nature, structure and contribution to the development of women entrepreneurs. The study is also meant to reveal how these networks leverage ICTs and the significance of their use of ICTs in achieving their network goals/objectives.

TARGET INFORMANTS AND FWBNS

The target FWBNs are those who are formal in nature of operation and structure and use ICTs for their operations and activities. The target informants within these FWBNs are members of the management team and the women network members.

Field Procedure

- Have a copy of the questions for the respondent
- Have a recording device
- Take notes
- Conduct Interviews in a quiet space (if possible, alone)
- Stay on course with the information needed
- Be attentive and look out for other possible leads
- Be calm and friendly

INTERVIEW QUESTION GUIDE FOR MANAGEMENT

Key Questions to address:

- Background of respondent and key role
- Background and history of Network
- Membership Procedures/Criteria
- Culture and Climate of network

- Type of actors and interactions
- Coordination and general operation
- External Stakeholders
- Resources within the network and particular services rendered
- Use of ICTs, benefits of ICTs and importance of ICTs to the network
- Challenges and role of context/environment

INTERVIEW QUESTION GUIDE FOR MEMBERS

Key Questions to address:

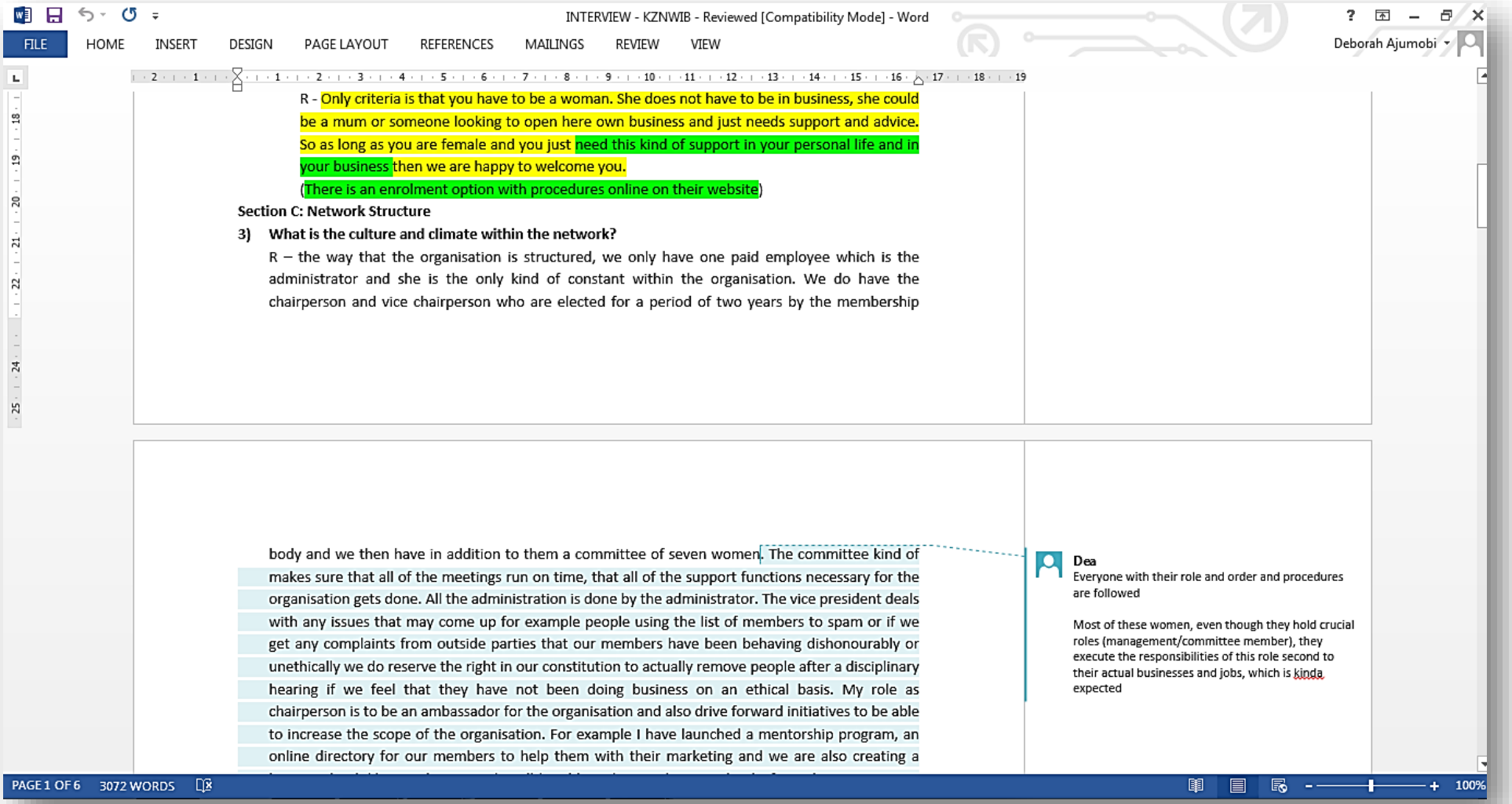
- Perception of Networking
- Benefits of Networking and the particular Network
- Relationship with other members
- Relationship with management team
- Resources received and nature of flow
- Use of ICT for networking
- Challenges to/Limitations of networking
- Position within the network

Suggestions for improvement of networks

Appendix 11 - LIST OF SOURCES FOR WOMEN BUSINESS NETWORKS

- http://www.opinionkenya.com/public/index.php?mntr=pal&o=962&b=1329
- http://www.femcomcomesa.org/?page_id=124
- http://www.businesspartners.co.za/knowledge-hub/women-in-business-fund/posts/business-organisations-and-associations-for-women-4223/
- http://www.bpw-nigeria.org/CIPE%202.html
- http://mg.co.za/article/2012-09-11-networking-for-women-in-business
- http://www.expatcapetown.com/business-associations.html
- http://www.distel.ca/womlist/countries/southafrica.html
- https://www.westerncape.gov.za/general-publication/web-directory-professional-bodies-and-associations-western-cape
- http://www.ifc.org/wps/wcm/connect/e00d6c0048855a36857cd76a6515bb18/Voices+of+Women+Entrepreneurs+in+Kenya.pdf?MOD=AJPERES
- http://www.distel.ca/womlist/countries/kenya.html
- http://thewaywomenwork.com/resources/
- http://softkenya.com/kenya/women-in-kenya-organisations/
- http://www.distel.ca/womlist/countries/nigeria.html
- http://www.nigeriainfonet.com/Directory/associations__organizations5.htm
- https://awpnetwork.com/2015/10/13/14-leading-organizations-changing-the-lives-of-nigerian-women-and-girls/
- http://www.nnngo.org/?s=women+business

Appendix 12 – Reviewing Interview Data



Appendix 13 - Code Book

CODING TABLE			
CONSTRUCTS/CONCEPTS/VARIABLES	**DEFINITION**	**DESCRIPTION/EMPIRICAL DESCRIPTION**	**SOURCES**
CORE ELEMENTS WITHIN THE NETWORK			
Actors	These are represented as nodes within a network and serve as a core within a network. From them resources are exchanged and relationships are formed and maintained. They have varying characteristics, occupy varying positions and differ in their networking behaviour. In FWBNs, the core actors will be mostly women entrepreneurs.	The women members./Management Team	Haythornthwaite (1996); Borgatti & Halgin (2011)
Positions	Actors could be central, dependent, independent, excluded or included. This could be influenced by the agency of an actor	The network's influence or way of ensuring or accounting for the centrality, inclusion or exclusion of its members	Bourdieu (1986); Hoang & Antoncic (2003); Lin (2005); Borgatti & Halgin (2011)
Demography Characteristics	This involves information on the age, educational qualification, age of business, type of business, technology use, and marital status. Studies show that these often influence the networking behaviour of women and also influences the way the run their businesses.	All information about the members and actors relating to age, educational qualification, age of business, type of business, technology use, and marital status.	Ibarra (1993); Ahl (2006); Radhika & Sreekala (2011); Bogren et al. (2012); Sospeter et al. (2014)

Networking behaviour of women entrepreneurs in sub-Saharan Africa	This involves the networking approach/activity of women entrepreneurs, which informs the types of networks they belong to (formal/informal; homogenous/heterogenous) and how they go about networking (that is, the relationships they form, how they maintain them and how they make use of the social contacts they make). This could be influenced by several factors.	Agency, commitment, engagement, use of network - and how the network influences these or sees to the occurrence or existence of these factors	Greve & Salaff (2003); Oke (2013); Bogaards, Klerk & Mostert (2011); Omwenga et al. (2013); Sharafizad (2014)
Relationships/ Ties (Strong/weak)	When there is a connection between two or more people, a relationship is formed (Haythornthwaite, 1996). Actors are linked by a relationship when they maintain the relationship. A tie is formed from all the relationships maintained by pairs of actors. These ties can either be strong or weak. The strength of a tie is determined by the frequency of interaction, the level of intimacy and the emotional bonds formed that link the actors.	A member should have either a friendship or business relationship with at least one member. The network should in some way encourage the building and fostering of relationships both between members and from members to management and vice versa	Scott (1991); Haythornthwaite (1996); Granovetter (2005); Redd (2014)
Flow (Resources)	This involves the distribution of resources between actors which normally occurs along network paths created from relationships between actors. These resources can be in the form of information, social contacts, practical help, collaboration opportunities and cognitive resources, funding, etc.	A member should be able to share resources or receive resources. The network should have created an atmosphere that encourages sharing resources. The network management should have provided resources and distributed them amongst members or created a way for members to have access to them.	Scott (1991); Borgatti (2005); Borgatti & Halgin (2011); Davis (2012)

OPERATING AND SUPPORT MECHANISMS			
Governance	This refers to the management and coordination of affairs of the network. This should include information about the formation and sustenance of the network. The power mechanisms usually lie with the management team. The governance also undergirds and coordinates exchanges within the network	Management Team's account of the formation, management, coordination and sustenance of the network activities and network and ways by which all these are put together to achieve the network goals.	Hoang & Antoncic (2003); Borgatti & Halgin (2011); Bonner & Spooner (2011)
External Support	This involves resources outside the network that are pulled into the network for actors to benefit from. These resources are provided by the governing and operating body or by external stakeholders. They are in the form of training to enhance skills, financial assistance, emotional support and legitimisation.	Government, private companies, individuals and all other external stakeholders that contribute to the success of the network as well as impact on women members. What they bring to the table and how they do so. What it involves as well.	Bierema (2005); Bonner & Sponner (2011); Spring (2009)
ICT (Mobile Tech, Internet, Social media, PCs)	The listed ICT tools can assist in facilitating and enhancing the activities within the network and also generate activity from the network to women entrepreneurs.	Note the type of ICTs and the way it is used. Also note if the ICT aspect has been strategically employed into the network functions as a necessity or if it just a convenient add-on.ICT usage for network operations, activities. ICT shold ideally facilitate or enhance some of these activities and operations. ICT should be able to have contributed to the impact, success and performance of the network. It should have also contributed to/facilitated/enhanc	ICRW (2012); Ajjan et al. (2014); Masika (2014); UNCTAD (2014); Salvador et al. (2014); Jenner (2015)

		ed the networking behaviour of the members.	
OUTCOMES FROM NETWORK			
Contribution (to W.E. Development)	This involves the contribution of the FWBNs to the development of women entrepreneurs in terms of their personal growth and business performance and can be visible through impact and growth of the network.	Impact or perceived impact. This can be determined by checking the resources provided, and the account of achievement and accomplishments from the management.	Bonner & Sponner (2011); Spring (2009); Davis & Abdiyeva (2012); Kim (2014); UNCTAD (2014)
Personal Benefits (to W.E.)	This refers to the benefits derived by women network members. It could be in the form of social capital and legitimisation.	Benefits derived	Gabbay & Leenders (1991); Portes (1998); Dawson et al. (2011); Kim (2014)

"It is Finished " – ***Jesus Christ***