SOCIAL HEALTH INSURANCE CONTRIBUTION PAYMENT OPTIONS AMONG INFORMAL SECTOR WORKERS IN EASTLANDS AREA OF NAIROBI COUNTY

BY

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DEDICATION

I dedicate this study to the many people who have enabled me get this far, for their encouragement that steered me throughout my graduate study.

ABSTRACT

Health insurance payment options are platforms that facilitate voluntary contributions to health Insurance. However, there are few, if any, studies on accessibility, efficiency and effectiveness of these platforms among informal sector workers (ISWs). There is limited understanding of attitudes and beliefs, social pressure and technology around these payment options. This study fills this gap by examining what motivates the ISWs to choose the various payment options for contributing to the National Hospital Insurance Fund (NHIF) and how choice of payment options is influenced by attitudes and beliefs, social pressure and technology. Data was collected through interview guides, key informant interviews and focus group discussions. The findings show that M-*pesa* is the preferred contribution platform followed by over the counter banking while the NHIF electronic wallet application had no users. The study finds that there are several challenges associated with the payment options such as transaction errors linked to use of the NHIF account number instead of the national identification number when transacting contributions through M-*pesa*. The research also revealed determinants of the different payment options for example, getting receipts from banks as proof of payment was found to influence the choice of over the counter banking. In addition, advice from NHIF staff was found to be the most influential social pressure among the informal sector workers and their choice of payment option. The research found a relationship between attitudes and beliefs, social pressure, and choice of payment options. Overall, the payment options reviewed in this study showed under-utilization of the available payment platforms especially the electronic wallet application. This suggests that there is potential to expand accessibility, increase efficiency as well as simplify the interaction between informal sector workers and the national health insurance fund in Kenya.

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ACRONYMS

BPJS	Badan Penyelenggara Jaminan Sosial
CBHF	Community Based Health Fund
CHF	Community Health Fund
COMCEC	Standing committee for economic and commercial cooperation
EAC	East African Community
E-wallet	electronic wallet
GDP	Gross Domestic Product
GoK	Government of Kenya
ILO	International Labour Organization
IMF	International Monetary Fund
ISWs	Informal Sector Workers
KHPFP	Kenya Health Policy Framework Paper
KNBS	Kenya National Bureau of Statistics
MHO	Mutual Health Organization
NHI	National Health Insurance
NHIF	National Hospital Insurance Fund
NHIS	National Health Insurance Scheme
NSHIF	National Social Health Insurance Fund
OECD	Organization for Economic Cooperation and Development
OOP	Out of Pocket Payments
PRSP	Kenya's Poverty Reduction Strategy Paper
RCT	Rational Choice Theory
SEWA	Self Employed Women Association
SHI	Social Health Insurance
SRM	Social risk management framework
TIKA	Tiba Kwa Kadi
UN	United Nations
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WSSTs	Women Small Scale Traders

CHAPTER 1: INTRODUCTION

1.1. Background

The welfare state, in which the state resolves to lessen economic inequality and promote social justice, is common in many parts of the world today. Welfare extends beyond social security and in some cases, includes the provision of health insurance (Lindbeck, 2006; Greve, 2008). Various states have developed social protection systems that respond to healthcare needs of their citizens in terms of coverage and payment options (Carrin and James, 2005; Carrin and Pecker, 2004). A properly formulated, designed and implemented health insurance policy promotes inclusivity of vulnerable and marginalised populations in terms of low overall cost, accessibility and increased quality of life (Okech and Lelegwe, 2016; Kansra and Gill, 2017). However, there are barriers to implementation of health insurance coverage among vulnerable and marginalised populations. These barriers include lack of information on payment options, technological gap, limited alternatives, and unreliable sources of income (Mathauer et al., 2007; Lagomarsino et al. 2012).

Majority of the vulnerable and marginalised population are the low income informal sector workers (ISWs) group. These include the urban and rural informal workers, or micro-entrepreneurs operating on a small-scale basis. These workers can either be employed or self-employed. Most of the informal sector workers are low income earners and therefore, require social protection that cushions them from high health costs as well as provide quality accessible health care. Informal sector workers face the risk of high out-of-pocket spending that at times exceeds their income (Kimani et al., 2004). Kamau et al, (2015) observes that women in the informal sector made an average daily profit of between Kenya shillings 20 to 2000 (less than a dollar to 20 USD) from which they got their income as well as invest back into their business. In addition, Kinyanjui (2014) noted that the profit margins varied in relation to factors such as type of business and its location within the Nairobi central business district (CBD).

Although informal sector workers operate businesses with low incomes and profits, they are expected to meet their health expenditures like everybody else (Kamau et al, 2015). According to Kamau et al, (2015) the average women health expenditure is Ksh.1075. The World Health Organization (WHO) considers health costs above 40% of the household income to be

catastrophic (WHO, 2003). In an ideal situation, social protection through social health insurance (SHI) is expected to meet health costs of vulnerable groups such as the informal sector workers who contribute and pool resources to the health insurance fund (Kimani et al., 2004 and 2012; Wagstaffa, 2007). However, there are informal sector workers who contribute to social health insurance. It is important to note that the national health insurance fund system is large enough to benefit vulnerable people without overburdening other populations (WHO, 2003; Kimani et al., 2004 and 2012; Wagstaffa, 2007; Doetinchem et al., 2010). While the benefits of the national health insurance fund outweigh its costs to individuals, transparent and organized management of the national health insurance is the only way that the fund remains beneficial and effective in providing certainty that insurance consumers are protected from costly out of pocket healthcare pay-outs (Mwabu et al., 1995).

The International Labour Organization (ILO) emphasizes the need for social health insurance through the decent work agenda which advocates for social health protection of individuals to reduce cost of and access to healthcare (ILO, 2008). In effect, the East African Community (EAC) five-member states which includes Kenya are working towards the attainment of social health protection through social health insurance as advocated for in the Kigali inter-ministerial statement on universal health coverage and long-term harmonization of social health protection in the EAC (EAC, 2014). In Kenya, policies and institutions are in place to improve social health insurance. The Sessional Paper No. 10 of 1965 on African socialism and its application to planning in Kenya articulated the need for universal access to healthcare (Munge and Briggs, 2014). Because of the lack of inclusivity, which limits accessibility for the vulnerable and marginalised populations, the intent of the Session Paper No. 10 is yet to come to fruition.

Kenya's social health insurance largely covers the national health insurance. The Kenyan constitution and policy framework including Kenya National Social Protection Policy 2011, the Health Bill 2015, and vision 2030 prioritised health in view of other welfare programs. Kenya's national policy framework, Vision 2030, prioritizes healthcare as a social pillar. It states that "providing efficient and high-quality health care systems would improve the livelihoods of Kenyans." Moreover, the Kenyan constitution of 2010 advocates for health and according to Article 43 and Article 53 access to health care is a right, including emergency health services. In addition, the Health Bill of 2015 enforces the constitutional health rights (Okech and Lelegwe,

2016). All these government policies are set to mitigate the wide gap in social health protection coverage among the Kenyan population however ISW's are excluded from social protection. For these reason, the government is making conscious efforts to extend coverage to informal sector workers (Kamau and Kamau, 2016). Through the National Hospital Insurance Fund, efforts are being made to increase coverage and access to affordable health care. However, the challenge is how to reach the 80 per cent of the Kenyan workforce in the informal sector (KNBS, 2015).

The National Hospital Insurance Fund was founded in 1966 as a social health insurance scheme in Kenya. Since then, NHIF has increased its focus on informal sector workers and has been working towards increasing enrolment in the population (Kamau and Kamau, 2016). According to NHIF, the scheme covers 2.4 million informal sector workers who contribute Kshs. 500 as monthly premium or an equivalent of Kshs.6000 yearly premium (NHIF SupaCover, Customer Information Pack[1]). In the past, informal sector workers made direct cash payments at NHIF offices. This was time consuming and costly to them due to long queues to access cashiers and the travel time required to reach the few NHIF offices (USAID, 2014). NHIF later halted direct cash payments at NHIF offices and introduced the banking payment option. Currently, the informal sector workers, have options to make contribution payments through five banks; Equity bank, National Bank of Kenya, Kenya Commercial Bank, Cooperative Bank and Post Bank (NHIF Handbook, 2017).

NHIF implemented additional flexible payment options; M-*pesa* (mobile money) and the electronic wallet (e-wallet), to increase enrolment and retain the informal sector workers. With these payment platforms, the informal sector workers and other contributing members have increased options. Today, NHIF consumers can make contributions with ease to NHIF either through banks, M-*pesa* or e-wallet. For example, the NHIF e-wallet payment option allows the informal sector workers to save a minimum of Kshs.18 per day into the wallet (NHIF Handbook, 2017). The amount saved is then accumulated to a minimum of Kshs.500 which is then remitted to NHIF through Jambo pay[2] system. M-*pesa* payment allows the informal sector workers to remit their contribution using a designated pay bill number. This raises the need to find out what influences the informal workers to choose a particular payment option. The question this paper

[1] Accessible on < http://www.nhif.or.ke/healthinsurance/supacoverServices>
[2] Online payment gateway, it facilities the electronic wallet payment system

sought to answer was why do the informal sector workers choose these payment options? More so, why do the informal sector workers prefer either of the NHIF contribution payment options?

1.2. Research Problem

The informal sector is not covered under the Trade Disputes Act, Factories Act, or the Workmen's Compensation Act. This gap renders workers in the informal sector vulnerable to health risks due to lack of health and safety regulations and compensation (Muiya and Kamau, 2013). In the event of injury or illness, and without social health insurance, these workers pay cash out of pocket to access healthcare. Some, however, are members of NHIF and can use the various payment options. Nevertheless, in a bid to improve accessibility and effectiveness, it is necessary to evaluate the impact of the existing options. The study of the payment options can aid in improvement of service delivery, and also set precedence for further studies as there is limited literature on social health insurance payment options. Moreover, it is important to access the payment options as affordability and accessibility lead to inclusivity through the attraction and retention of informal sector workers (Kimani et al., 2004). Notably, friendly and an acceptable contribution options are likely to increase contributions. When the contribution payment options are not user-friendly, accessible or acceptable (Mathauer et al., 2007), then the informal sector workers are likely to be inconvenienced and yet they may not have sufficient income to travel to NHIF offices.

The informal sector workers who are members of NHIF have three payment options which they can use to make contributions to NHIF, and are at liberty to choose their preferred option. M-*pesa* and e-wallet are well-suited for the informal sector workers than the banks because when one is making payments in the bank, for example, one has to travel and queue. This is time consuming and does not compare to M-*pesa* where one makes payment via mobile phone irrespective of where they are. Further, the e-wallet enables accumulation of savings and it is adapted for individuals with irregular incomes.

There are requirements for one to use the e-wallet. A contributor is required to have a smartphone with a windows or an android operating system. This is possible usually with smartphone which some of the workers may not afford. The cost of a smartphone ranges from

Kenya Shillings five thousand (50 USD) upwards. Social pressure might also cause individuals to buy smartphones without knowledge on how to use the applications. The knowledge on how to use e-wallet application may pose a challenge in this regard.

M-*pesa* is a Safaricom mobile money transfer application (USAID, 2014). Hence, M-*pesa* and e-wallet payment options are only available for Safaricom users. Thus, to make premium contribution using M-*pesa*, an individual would have to be a Safaricom user. The e-wallet depends on M-*pesa* for the savings to be sent to the e-wallet.

Therefore, this study seeks to investigate the choice of payment options by informal sector workers in remitting NHIF contributions. The study is significant as it assists in understanding and improvement of payment options based on the irregular incomes and work schedules of informal sector workers. In responding to the research questions, this work analysed data collected from informal sector workers in a low-income area of Nairobi's Eastlands. As argued later under the section on methodology, the study chose Eastlands in Nairobi because of the high concentration of city council closed market stalls and informal sector workers in this urban area.

1.3. Research Questions

The main question guiding this study was why do informal sector workers in Nairobi's Eastlands region choose the options they make in paying for their social health insurance under NHIF? The preceding discussion has also shown that beliefs and attitudes play a role in shaping people's preferences on payment options.

First, the study therefore sought to find out 'how do beliefs and attitudes affect the preferred NHIF contribution payment options by ISWs in Nairobi's Eastlands region?

Secondly, what role does social pressure plays in the choice of payment options among these ISWs?

Thirdly, how does technology influence the choice of payment option among these ISWs?

1.4. Research Objectives

The main objective of the study was to identify factors that influence informal sector workers to choose particular payment options for their health insurance. The study also sought to explain why these workers preferred particular options in making payments to NHIF.

1.5. Justification of the Study

The study provides valuable information to academicians who wish to understand how payment options affect enrolment and retentions in health insurance scheme for the poor and in particular the workers in the informal sector in Kenya. The study also provides information to policy makers on how to address challenges that the informal sector workers face in making payments to health insurance schemes. It is evident that social health insurance remains a global health agenda but there is limited information especially on the payment options used by the informal sector workers. There is also limited information on how to sustain the interests of low income groups in paying for these social protection schemes. Thus, this study contributes to this gap by providing useful information to policy makers, social health insurance implementers and government agencies such as NHIF to develop and improve on the payment options.

The outcome of this study should provide a theoretical framework for understanding the relevance and suitability of flexible payment options among informal sector workers. Moreover, this study will identify the preferred payment options, as well as factors determining these choices.

1.6. Organization of the Research Paper

Chapter One introduces social health insurance in Kenya, as well as the rest of world. This section includes the problem statement, research questions, objectives and justification of the study. The main argument in this section is informal sector workers need payment options that are accessible and user friendly to contribute to NHIF.

Chapter Two of this study explores existing literature on social health insurance and payment options. The chapter analyzes the development of social health insurance and payment options.

This section not only facilitates knowledge discovery, but also examines the relevance of various theories and concepts that relate to decision-making among informal sector workers when choosing contribution payment options.

Chapter three describes methods of data collection, the study population, and the identification of the appropriate tools used in this study. The third chapter also outlines the study sample. In chapter four, this study evaluates and discusses the research findings. Chapter five has the summary, conclusions and recommendations of the study. Lastly, the appendix contains the data collection tools and research permit.

CHAPTER 2: SOCIAL PROTECTION AND PAYMENT OPTIONS

2.1. Introduction

The preceding chapter has noted that beliefs and attitudes, social pressure and technology may influence people's choice on payment options. The study therefore seeks to identify factors that influence informal sector workers to choose a particular payment option for their social health insurance. To grasp the concepts this chapter presents an empirical framework in form of literature review. Central to this section is an analysis of past and existing literature on social protection and social health insurance payment options. Moreover, in understanding the complexities of social health insurance, this work examines reasoned action theory.

Factors that determine choice of payment options are important because they determine access and retention of informal sector workers. All these issues are at the core of social protection. Within the context of social health insurance systems, informal sector workers have to contribute towards the social health funds. As such, this section focuses not only on the insight gained from existing literature, but also explores the effective approaches in overcoming challenges associated with social health insurance models, especially in terms of accessibility and quality of payment options. This section discusses the application of technology in reaching those in the informal sector.

This chapter, analyses these issues in relation to the literature on social protection. The discussion also delves into the related theories which explain extensively on choice. The review is guided by the need to find out what explains the choices people make in seeking social health insurance and whether their beliefs play a part in this. Different payment options are determined by association to different advantages and disadvantages associated with the option. Hence these factors influence one's choice.

2.1.1. An Overview of Social Protection and Policies

Social protection since the late 1980's has gained importance significantly due to raise in poverty and vulnerability associated with the financial crisis and negative social impact of structural adjustment program (Barrientos, 2010). Adesina opined that previously policies were focused on

social dimensions of adjustments but the focus has changed to cash transfers. Adesina emphasises that cash transfers does not thrive in an environment that does not have political will as it relies on funds being redistributed from the national gross domestic product (NGDP) (Adesina, 2011). This is supported by the United Nations Research Institute for Social Development (UNRSID) who noted that social protection is a policy framework to mitigate against social adjustments such as poverty and vulnerability (Barrientos, 2010).

The significance of social protection as proposed in social health insurance schemes is the elimination of inequalities through redistributive policies (United Nations, 2015). Inclusive economic and social policies enable vulnerable groups such as informal sector workers to have access to basic rights. According to the International Labor Organization (ILO) and The United Nations International Children's Emergency Fund (UNICEF), social protection is associated with a range of public institutions, norms and programs. Social protection ensures that workers and their households are protected from contingencies threatening basic living standards (Barrientos, 2010; UNICEF, 2012). Social protection enables informal sector workers to meet their basic needs. This however, remains an ideal as most of the informal sector workers are left out from social protection schemes (Kamau et al., forthcoming). Social protection has had limited effect on the reduction of inequalities in Kenya. This has been a consequence of the pay-as-you-earn system, where the main source of revenue for social protection comes from the formal sector.

According to Barrientos (2010), Bastagli (2013), UNICEF (2012), Cecchini and Martínez (2012), social protection is categorized into social insurance, work programs, and social assistance. Social insurance such as pension schemes, health insurance funds and sickness programs are contributory programs (Norton et al., 2001; Ferreira and Robalino, 2010; United Nations, 2015; COMCEC, 2016). Contributory programs rely on finances from the population mostly from salary revenue deductions managed by the government. The funds are used to support contributors during hardship.

Work programs are programs where one is compensated for work by being provided food, for instance job training with cash or food compensation on completion of work requirements (UNICEF, 2012; European Communities, 2015). This is important because it allows vulnerable groups to access basic needs and have meaningful employment and training.

Social assistance programs are non-contributory social safety nets which include relief programs, cash transfers, food programs, allowances or grants (Norton et al., 2001; United Nations, 2015; European Communities, 2015; IMF, 2016). Social assistance programs are important because they don't require any financial contribution from those affected by chronic deprivation. However they are able to provide for provision of basic needs for the most needy and vulnerable in the society.

COMCEC (2016) observes that the difference between these social protection categories is that, on one hand, social insurance and work programs tend to benefit income groups, while on the other hand; social assistance programs focus on the poorest and most vulnerable groups. Further, according to Ferreira and Robalino (2010) social protection categories differ in that social assistance is intended for people to access basic needs such as food and shelter while social insurance is for redistribution based on incomes. The programs constituted in social insurance provide protection against life contingencies such as maternity and old age or work related emergencies such as unemployment or injuries (Barrientos, 2010; Norton et al., 2001).

Social health insurance has its roots in Germany and in particular the social policies, which were introduced in Germany by Otto Von Bismarck in the 1880's. Bismarck's social policies were incremental with different stages of incorporation into the national health insurance. The German Social health insurance began with the establishment of voluntary sickness funds in 1883. A year later, in 1884, as a cover for industrial accidents, the authorities introduced compulsory membership for all formally employed individuals. Thereafter, the scheme extended coverage to informal sector workers through employment groups such as miners (Carrin and James, 2005; Johnson and Stoskopf, 2010). Bismarck social policies created a platform for the social health insurance system which is egalitarian because it seeks equity and universal coverage. In addition, Bismarck, social policies ensured that both the formal and informal employees had access to healthcare.

In Kenya, the existing social protection frameworks have historically excluded informal sector workers. The National Social Security Fund (NSSF) previously covered the salaried formal employees leaving out the informal sector. Although, the NSSF now includes informal sector workers, there is wide perception among these workers that both NSSF and NHIF are still

structured for salaried, permanently employed workers (Kamau, Kamau and Muia, 2015). In the study by Kamau et al., (2015) only 4.3% of women small scale traders (WSSTS) had enrolled with NSSF with 1.3% enrolling to alternative pension schemes such *Mbao* pension plan. Government of Netherlands (2010) observes that the percentage of Kenyans covered by health insurance is only 25% and that NHIF coverage is 20% whereas private insurance is 5% of the total population. This means that although the NHIF has the highest health coverage in Kenya, most of the Kenyans are left without any form of health insurance (Kamau and Kamau, 2016; Mwaura et al., 2015).

In developmental approaches, social protection is perceivable as a tool for advancing human capabilities, social integration, and economic development (Babajanian, 2013; Barrientos, 2010). According to COMCEC (2016), social protection programs can be protective or preventive having a positive effect by enhancing income and capabilities that help people meet their basic needs. United Nations (2015) emphasizes that social protection is an effective measure to tackle disparities in income and unequal access to health care especially for vulnerable populations. Ferreira and Robalino (2010) assert that social protection promotes social integration by reducing social exclusion. This is done by addressing economic and social vulnerabilities caused by structural inequalities (United Nations, 2015).

Social protection is just one aspect of development. Social protection is a part of 'development as freedoms' that Sen (1999) perceives as essential in advancing societies. In his argument, development is wider and encompassing unlike the narrow views that look at development as economic growth, rise of personal income, industrialization, technological advancement. Development as freedom involves the removal of major sources of un-freedom that include poverty, poor economic opportunities and social deprivation. However, without economic growth, the informal sector workers with low profits are unable to increase their financial capacity to allow for contribution towards social protection. When excluded from social protection coverage, their incomes are consumed to meet these needs (Kamau and Kamau, 2016; Kamau et al., forthcoming).

2.1.1.1. Implementation of Social Protection

Ferreira and Robalino (2010) state that governments get social protection finances from taxes. An example is the Ghana NHIF which introduced a 2.5% levy on value added tax and contributions. Taxation enables resources to be redistributed from high to low income groups. The government using social assistance programs makes transfers to households in cash or in kind. Social protection funds are also generated from premium contributions for pension and health insurance schemes. Weigand and Grosh (2008) show that spending on social protection is higher in Organisation for Economic Cooperation and Development (OECD) member countries who use 16% of their GDP on social health insurance, South Asia uses 2% of the GDP to cover social protection and whereas 5% is used in both the Middle East and North Africa.

COMCEC (2016) posits that the private sector can also play a financing role through public private partnerships. The private sector plays a role as mediators or providers of essential social services. They are also contributors to social health insurance. This is typically the case in the health insurance market and public private partnerships in health care.

Some governments employ frameworks such as social risk management framework, transformative social protection framework, and the life cycle approach to implement social protection. The European Communities (2015) observes that social risk management framework (SRM) formed the theme of the World Bank's 2000/01 World Development Report. The SRM strategy provides risk management instruments to achieve poverty reduction, income and consumption stabilization aimed at asset accumulation. Social risk management framework acknowledges that the society is vulnerable to multiple risks from different sources and tries to effectively and efficiently handle risk in different forms. It combines labour market intervention through policy and social insurance (Adesina, 2011). Transformative social protection framework focuses on socio-political contingencies because they are the main cause of vulnerabilities. This is done by providing income or consumption transfers to the vulnerable going beyond economic protection. Life cycle approach is based on mitigating risks that individuals face in different stages of life. However social health insurance focuses more on transformative social protection framework to mitigate against vulnerabilities such as the low and irregular incomes of informal sector workers that affect their ability to access healthcare.

Social health insurance focuses on delivery of social services such as healthcare which is a characteristic of transformative social protection. However even with frameworks the theory of reasoned action opine that individual based on beliefs and social pressure will chose options that are most advantageous to them.

These three frameworks are different in the "perception of problem, identification prioritisation and social protection providers" (Adesina, 2011). For instance, SRM perceives the problem to be economic while transformative social protection perceives the problem to go beyond economic protection. However, each framework has a unique characterisation that can be used in different circumstances. Ideally, the best option would be to integrate all three frameworks to address different vulnerabilities.

2.1.2. Available Social Health Insurance Payment Options

While the purpose of any social health insurance is to increase access to healthcare, the existing payment options are often limited in scope and discourage collection of funds. Membership to a social health insurance scheme can be ineffective, especially if they ignore the plight of the marginalised and informal groups, who are unable to consistently contribute towards the fund. Even so, technological advancements in the past century have made it possible for policymakers and social health insurance scheme administrators to explore new channels of improving accessibility. Moreover, payment options increase flexibility and convenience, as individuals have several alternatives that enrich the decision-making process.

Payment options allow for regular contribution given that informal sector workers have irregular incomes. Flexible payment options should be convenient because informal sector workers jobs are time consuming and require options that limit travel time. Informal sector workers have insecure employment and need options that allow them to save (Kanenje, 2009).

E-commerce, a business model built on telecommunications networks, is steadily becoming a global phenomenon. However, the health insurance industry has been slow in embracing new technology (Grossman et al., 2004). It is important to note that health insurance faces challenges given the difficulty of merging technology to the health insurance industry as well as finding the necessary technological expertise (Chetterjee and Jessup, 2002; Atluri et al., 2016). Electronic

digital platforms are gradually gaining popularity, specifically as customers are opting for private insurance and other alternatives. Mobile technology has become a viable option enabling countries to extend health insurance coverage to marginalized populations such as informal sector workers. Such platforms are taking shape in Philippines, Colombia, Kenya and other countries (Chetterjee and Jessup, 2002). Where health insurance schemes use mobile payment platforms to collect contributions, they not only provide flexibility and accessibility to individual customers, but also pricing transparency (Atluri et al., 2016).

Electronic and digital payment platforms have become indispensable tools in the collection of healthcare funds. In Kenya, there are several examples of technology based social health contributory schemes. The Business Call to Action (2016) explored mobile payment options for the informal sector workers in Kenya from Jacaranda health, *Changamka* Micro-Insurance, PharmAccess and Micro-ensure. The study revealed that *Changamka* Micro-Insurance Limited, founded in 2012, used M-*pesa* to receive health insurance contributions from members. The contributors gained partial benefits after paying Kshs. 6,000 and full benefits after reaching Kshs. 12,000 for a family per year. However, this contribution was higher than the NHIF monthly premium, which amounted to Kshs. 6,000 annually. The scheme had the unique feature of compensating the contributor lost income when hospitalized. After the third day of hospitalization the contributor received Kshs. 500 per day thus justifying the higher contribution.

Jacaranda health is another example of health insurance that uses M-*pesa* through *Mamakiba* (Mothers Saving). *Mamakiba* allowed pregnant women with low incomes in urban areas to use M-*pesa* to save in order to meet their health cost needs. The money saved would then be used for maternal health care. In addition the Airtel airtime Micro-ensure was launched in Kenya in 2015 as an Airtel insurance product. The insurance is a loyalty program based on monthly usage of Airtel airtime. The subscriber gains benefits with increased airtime usage. The subscriber then claims compensation from Micro-ensure after paying for services at a health facility. The subscriber used hospital admission and discharge forms to make claims. The insurance payments were made through Airtel (Business Call to Action, 2016). Lastly PharmAccess used the e-wallet payment option; the application allowed users to deposit money to their phone e-wallet account using M-*pesa* and saved for healthcare costs (Kamau and Kamau, 2016).

In spite of the benefits of using technology to advance social health insurance coverage, *M-pesa* inexorably present some challenges, such as inability to correctly confirm transaction details (USAID, 2014; Njoroge, 2015). Kamau et al. (2015) also noted that mobile phones were largely used for communication and rarely used to make NHIF contribution payments, therefore presenting a knowledge gap as to why they would use their phones for contributions. On the other hand, payment through the traditional method such as at NHIF offices has proved ineffective, especially as it involves wastage of time and resources. In addition, payment through the banks demand that the subscribers queue at the banks, therefore leading to an opportunity cost. Even so, the use of the NHIF e-wallet, the downloadable application, also reveals a technological gap, especially in relation to internet connectivity and ownership of smart phones.

While the choice of payment options depends on individual needs and status, this act can be representative of social influence from friends, family or spouses. The foundation of this view is that people are constantly seeking validation from the environment, in general, and the community, in particular. Thus the choice of payment options extends beyond convenience and includes a pattern of social influence which is discussed in the next section.

2.1.3. Social Influence and Relevance in the Selection of Payment Options

In understanding social influence and the relevance to the choice of payment options, it is necessary to examine various forms of social relations. People live in communities and groups and therefore communication is a primary social factor. It is through communication that people share ideas and emotions, as well as discover knowledge. For that reason, many people depend on public opinion and trends in making critical decisions, including whether or not to use certain payment options.

2.1.3.1. Health Utilization and Social Influence

The membership into social health insurance is not a determinant of access to healthcare services. Muinde (2002) conducted a study to understand health care seeking behaviour in Nairobi among individuals who had insurance coverage. The paper categorized health care utilization into preventive care, outpatient, and inpatient services. The findings suggested that with social health insurance, individuals are prone to utilize modern outpatient health care.

Waters (1999) further argued that being insured has an effect on seeking curative care but not preventive care.

Mwangi (2015) investigated risk preferences, risk attitudes, and demand of medical insurance among non-salaried individuals in Kenya. The study revealed that peer influence determined the renewal of social health insurance. Therefore as suggested by the theory of reasoned action, social pressures determine an individual's participation in social health insurance. Kimani et al. (2012) observed that marital status is a determinant of uptake of social health insurance. This finding is supported by Muhia, (2011) who pointed out that marital status of household heads affects NHIF membership. Therefore as highlighted by the theory of reasoned action, spousal influence can determine the choice in social health insurance. This is emphasized by Kamau et al., (2015), stating 58.3% of the WSSTs would make their own business decisions without being influenced compared to 4% that consulted their spouses whereas 37.7% consulted their parents, friends or other relatives.

Overall, social protection has become a measure of assessing government effectiveness. A nation achieves social protection if, for example, the state agencies can provide financial and moral support to the citizenry. The social health insurance fund aims to increase access to quality healthcare. Given the technological gaps and difference in income levels, it is necessary that authorities improve social protection by encouraging participation by individuals who have been historically marginalized by inconclusive, and even biased, policies and regulations. For that reason, social health insurance administrations continue to introduce alternative payment options, which can aid in remission of monthly or annual contributions to the public funds. Even then, social influencers also determine the choice of payment options.

2.2. Theoretical Framework

This study aims to explore the choice of payment options by informal sector workers following theory of reasoned action (TRA). Theory of reasoned action creates the lens through which this study explains the choice of health insurance payment option and preference while drawing some parallels from the technology acceptance model (TAM).

2.2.1. Reasoned Action Theory

Theory of reasoned action which was introduced in 1967 by Fishbein and Ajzen has been acclaimed as the most effective theory in predicting intentions and behavior. The theory attempts to explain how beliefs, attitudes, and social pressures influence one's choice. The main assumption is that individuals are rational beings who use available information to make choices and as such, attitude and subjective norms determine behavioral intention which results to behavior. The direct determinants of people's behavioral intentions are their attitudes towards performing the behavior and the subjective norm associated with the behavior (Fishbein and Ajzen, 1975; Tlou, 2009; Southey, 2011). According to this theory, the two determinants of behavioral intentions are attitude and social pressure (Southey, 2011). In this case, the choice of a certain payment option could be influenced by an individual's attitude towards the outcome.

2.2.1.1. Attitude towards Choices

Attitude refers to a person's outlook towards performing the behavior under consideration. Ideally, one tends to perform actions with positive outcomes (advantages) more and avoids actions with negative outcomes (disadvantages) based on their judgement and salient beliefs (Beadnell et al., 2008; Ajzen and Fishbein, 1980). For instance, if a payment option is believed to be ineffective, then people would rather avoid that option. According to theory of reasoned action, beliefs can affect an individual's evaluation, observation or knowledge concerning performing a given behavior (Tlou, 2009). Thus, the perceived usefulness or relative advantage is defined as the degree to which a person believes that using a particular payment option would enhance performance and benefit their daily lives or job. An informal sector worker's good perception of the usefulness associated with a payment options will positively influence the attitude towards choice (Ismail and Razak, 2011). Therefore, consumer attitude will be influenced and determined by the degree to which a person believes that using a particular payment option would be positive in that, it will require less effort and is less complicated. Hence, if the payment option is easy to use, it will develop positive attitude towards use but if it is complicated and difficult, the reverse will be true (Ismail and Razak, 2011).

2.2.1.2. Subjective Norm

Under theory of reasoned action (TRA), subjective norm is an important component. It can be understood as the social pressure that influences an individual to perform or not to perform a behavior. Here, social pressure is the influencer or the people that the informal sector workers consider valuable and their opinion important. Thus, according to TRA, people are more likely to perform behavior when they evaluate it positively and believe that those people close to them or they value would prefer they perform it (Tlou, 2009; Ajzen and Fishbein, 1975; Ajzen and Madden, 1986). For example, if a spouse prefers one payment option over another, he/she is likely to influence the choice of their partner's payment option. In addition, the social pressures from friends, colleagues and family may determine the choice of payment option. For instance, if most women or men in a market prefer to use banking, and a specific bank, there is likelihood that others joining are likely to use banking as an option, and the particular preferred bank to make remittances. Hence, it is therefore important to understand the role of colleagues, family, friends and peers on a contributors' payment preferred options. While there have been studies such as (George, 2004; Shih and Fang, 2004) that have submitted that subjective norm may not influence behavior as such, numerous other studies including (Shin et al. 2009; Lu et al. 2009; Jayasingh and Eze, 2009) have shown there exists a positive direct influence.

2.2.1.3. Technology

According to Ismail and Razak (2011), theory of reasoned action (TRA) has widely been used in studies relating to information systems. However, TRA is limiting because it doesn't consider technology as a determinant of choice. Technology can either have a positive or a negative impact on an individual's attitude and belief. Similarly, social pressures determine the technological perception among individuals. One's experience on the use of technology can determine the choice of payment option. Despite positive attitudes, beliefs or social pressures, an individual may lack the technological capacity to use the payment options. Moreover, the technology may not be effective at all times. For example, e-wallet can only be used on windows and android phones however one needs access to the internet to download the application.

The penetration and diffusion of cellphones is high and has resulted in its adoption for banking, for customers to access services. Technological services bring convenience to the customers, and

advantages such as lower costs, saving time and making transactions anywhere. The two determinants for acceptance of technology are perceived usefulness and perceived ease of use (Rammile and Nel, 2012). Perceived usefulness is the extent to which people believe that technology will help them perform the task at hand. When informal sector workers perceive that technology is useful, then they will have the intention to use it and resist technology that requires them to change their way of doing things (Rammile and Nel, 2012).

The information barrier determines whether informal sector workers have knowledge on the payment options, they may not know or understand the benefits, nor will they know how they should use the payment option. The usage barrier occurs when technology innovation does not fit with informal sector workers workflows, habits and practices, because more effort will be required to learn and utilize the payment option (Rammile and Nel, 2012).

2.2.1.4. Behavioural Intention

Behavioural intention is the likelihood that a person will engage in a given behaviour (Beadnell et al., 2008). Behavioural intention can determine the choice of payment options. It is influenced by attitude and subjective norm. First, behavior is influenced by intention when; there is a degree of correspondence between intention and behavior. Secondly, behavior can be influenced when the degree of intention remains stable over time (Beadnell et al., 2008). The elements used to measure this are actions taken, context of action, target and time of occurrence. The elements of intention have to be identical to those of behavior. In order to change any behaviour, one must change the intentions (Ajzen and Madden, 1986). Individuals, who have strong attitude towards an event, are likely to take quick or prompt actions, than individuals who do not have a strong attitude towards a similar event.

The multiple-choice criterions are choice intentions which provide behavioural alternatives to a person hence the focus of this study. Multiple-choice criterions afford a person the opportunity of identifying the behaviour. They are most likely to perform across a range of alternatives. Behaviour corresponds directly to the choice intention measure elements of action, target, context and time (Ajzen and Fishbein, 1986). For instance, informal sector workers would have to go to the bank (action) in the morning (time) before they start working because the business is reliant on them being physically present (context) to contribute the NHIF premium (target). If

they do not have time (time) they could remit contributions (action) using M-*pesa* (target) as they can deposit money into their phone through service agents in the market (context) without leaving. Alternatively, the informal sector workers can make daily savings of Kshs 18 (target) per day (time) especially if they do not have sufficient funds (context), through the e-wallet (action) until they achieve the premium target of Kshs 500 which can then be remitted to NHIF (target).

The essence of this theory is that it assists in understanding the choice and thought process among informal sector workers when choosing payment options. Moreover, this theory makes it possible to understand the attitude and social pressure that determine the choice of payment options. Through the understanding of this theory, it is possible to validate the findings from this study. With this theoretical foundation, this study can identity the social elements that either encourage or discourage participation in the social health insurance scheme. Furthermore, the reasoned action theory, provide insight on the decision-making mechanism that underlies the choice of suitable payment options among informal sector workers.

The theory of reasoned action is able to explain choice of payment option based on multiple variables. Other theories have focused more on the implication of informal sector workers' economic status on choice of payment option. This is not entirely true because with reasoned action theory other factors such as social pressure from spouses influence choice of payment option.

2.3. Conceptual Framework

This study seeks to gain an understanding of how informal sector workers choose NHIF payment options. The study has three independent variables: attitudes and belief, social pressure and technology. The study presumes that informal sector workers choose the payment options that are suitable based on attitude, beliefs and social pressures from friends, spouse and family, as their determinants of choice. The payment option is the dependent variable. Based on the reasoned action theory, belief is interpreted as the advantage or disadvantage that an individual associates with the outcome of choice. The advantage comes from positive outcomes while disadvantages are derived from negative outcome such as challenges of using a payment option.

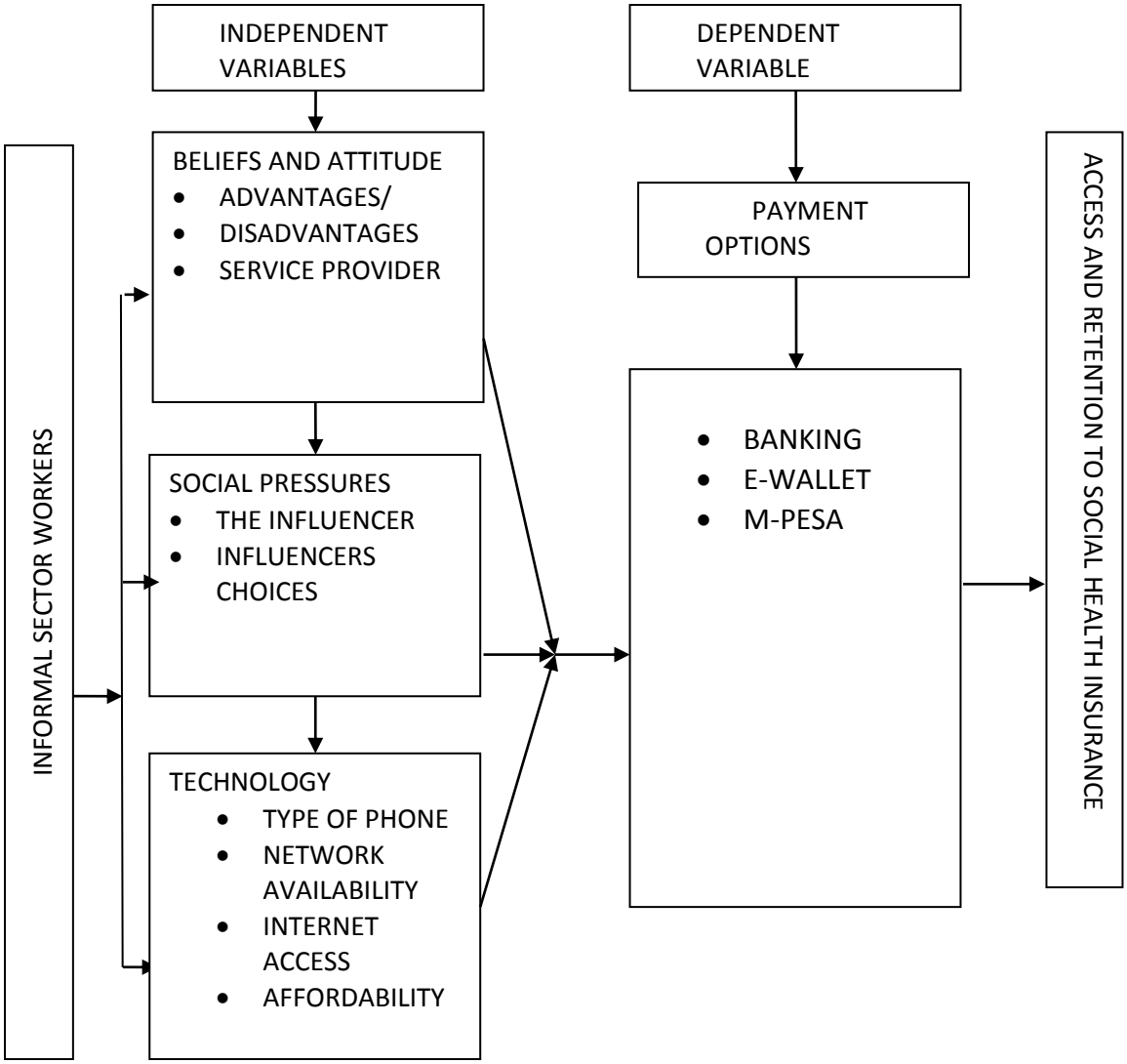
As such, the experience of making a payment option plays a part in forming attitudes and beliefs about the options. Experience is gained from participation with the use of the payment options forming a level of satisfaction with the payment options. On basis of this experience, individuals form positive or negative beliefs and attitudes about use of an available option.

Service providers consist of companies that provide mobile money transfers and banking. Safaricom has M-*pesa*, Airtel has Airtel money, Orange has Orange Money and Equity Bank has Equitel. The attitude toward the service provider determines choice of payment option such that those that don't prefer to use Safaricom would be unable to use M-*pesa* and e-wallet payment option. NHIF uses five banks and one's attitude towards the bank would determine payment option choice and bank preference.

The second independent variable is social pressures. In this framework, this comprises 'influencers' such as friends, family or spouses. The informal sector workers are more likely to use the payment option that influencers would prefer them to use. The relationship provides motivation to comply with the influencers' payment option.

The third is technology. Use of technology can inhibit or facilitate choice of payment option. The type of phone used, network availability, and affordability of phone, combined are factors that shape one's choice of payment options. The phone usability or ease of use is important in this respect because someone such as an informal sector worker may have the windows or android phone but lack the knowledge on how to use it in making their remittance. The cost of phones may be high for some of the workers especially if the applications required for making contributions are not basic applications. Thus it is important to understand whether the informal sector workers can afford the windows or android phones including the cost of downloading the application.

Figure 1: Conceptual Framework



Source: Researcher's Conceptualization

From this chapter, this work has identified an empirical framework and conceptual framework based on the theoretical framework that can aid the study investigation of choice of payment options among informal sector workers. In particular, the conceptual framework has demonstrated the correlation between independent and dependent variables. This chapter has explored the relevance of technology, social influences, as well as beliefs and attitudes in the choice of payment options. Extending the concepts and theories identified in chapter two, the next chapter will outline a procedure for determining the association between informal sector workers choices whether based on attitude, social pressure or technology and choice of payment options.

CHAPTER 3: METHODOLOGY

3.1. Introduction

In investigating the correlation between factors that influence informal sector workers choices and payment options, it is necessary to devise a research procedure. The aim of this research is to develop an empirical framework for understanding and improving the social health insurance payment options. It is important for informal sector workers to be able to contribute regularly without being inconvenienced reducing defaults and increasing retention and enrolment.

This section outlines the methods and techniques that were used to generate data about the informal sector worker's choice of payment option when contributing to NHIF. The section describes the research design, study site, study approach, target population, sampling procedures, sample size and ethical considerations.

3.2. Research Design `

The study used a cross-sectional design with mixed method approaches that combined both quantitative and qualitative methods. The Cross-sectional design was chosen because it allowed data collection for more than one variable at a single point in time. The qualitative methods applied, allowed the researcher to obtain in-depth information from the respondents and the focus group discussions while, the quantitative methods were useful for gathering statistical data from the sample.

3.3. Study Site

The study was conducted in Eastlands Nairobi County, Kenya. The areas covered were Embakasi West and Makadara constituencies. These constituencies were low income densely populated areas with a population of about 347,454 covering 22.35 per square kilometre (KNBS, 2009; Atanda, 2014). Both constituencies had an estimated population of 10.3 per cent and 11.3 per cent respectively living below the poverty line (KNBS and SID, 2013).

Embakasi West and Makadara constituencies have county open air and rental stall markets, private stall markets and street markets. Private markets were run by individual owners and their

rent was high, while the street markets are temporary on road reserves and walkways. County markets are run by the county government and are cheaper as the informal sector workers pay rent of about Kshs 800 per week (Gazette, 2013). The county markets are thus preferred by most of the informal sector workers. The closed market compared to the open markets, are permanent as they have structures built by the county government.

Open air markets have temporary business areas. Closed markets have a sense of permanency as an individual trader or vendor is likely to occupy the same space (Kamau et al., forthcoming). The informal sector workers in county rental stall markets operate in these premises for longer periods of time as the market is not interfered with, unlike the open-air markets such as Githurai market and Kibera markets which from time to time had been demolished for road expansion or other uses. Embakasi West and Makadara constituencies housed majority of Nairobi's rental stall markets; the other 15 constituencies majorly have open air markets (NCC, 2014). This study excluded open air markets because of their temporary nature.

The study focused on four county rental-stall markets, with a total of 1294 stalls in Embakasi West and Makadara constituencies according to Nairobi County Council (NCC, 2014). The specific markets chosen were Umoja One, Umoja Two, Uhuru and Jericho Markets. There were only five County rental stall markets in Embakasi West and Makadara constituencies. Umoja One and Umoja Two markets are located in Embakasi West while Jericho and Uhuru markets are located in Makadara constituency. Kariobangi South market is in Embakasi West but was excluded from the study as it was used for the pre-testing. It had many tailoring businesses which could be covered in a larger scale at Uhuru market. The characteristics of the covered markets are summarized in Table 1. The map of the study site is provided in figure 2.

Table 1: Market characteristics

Site/Market	Location	No of Stalls	Main type of business/specialization
Jericho	Makadara	476	Hairdressing and tailoring
Uhuru	Makadara	426	Tailoring
Umoja One	Embakasi West	320	Hairdressing
Umoja Two	Embakasi West	72	wholesale shops and detergents making
Total		1294	

Source: Survey Data

Figure 2: Map of study area

3.4. Study Population and Target Population

The study population was individuals in the Embakasi West and Makadara constituencies. The study population of Embakasi West and Makadara is 347,454 (Kenya Gazette, 2016).

The target population for the research were informal sector workers in Umoja One, Umoja Two, Uhuru, and Jericho Markets. There were 1294 stalls in these markets (NCC, 2014) hence the target population comprised of 1294 respondents with one person per stall.

The quantitative study targeted informal sector workers (ISW) regardless of their NHIF membership status. The informal sector workers with no NHIF membership were included to understand their awareness on payment options and other health insurance options. The informal sector workers with NHIF membership provided information on payment options, their preferred payment option and the reason for their preference. This category also included both active and inactive NHIF members, the latter being those whose contributions were not up to date.

3.5. Sample Size and Sampling Procedures

3.5.1. Sample Size Determination

The overall target population of informal sector workers in the markets was 1294 respondents. Using a sample size formula from Israel, (1992) the study selected a sample size of 90 respondents representing a ±10% precision level, with 95% confidence level and 0.5 margin of error. The sample size was then adjusted upward by adding 10 respondents to increase the information pool, thus giving a total of 100 respondents.

$$\text{Sample Size} = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1+\left(\frac{z^2 \times p(1-p)}{e^2 N}\right)}$$

$$\text{Sample Size} = \frac{\frac{1.96^2 * 0.5\ (1-0.5)}{0.1^2}}{1+\left[\frac{1.96^2 * 0.5\ (1-0.5)}{0.1^2 * 1294}\right]} = \frac{96.04}{1.07} = 90 + 10 = 100 \text{ Respondents}$$

The male and female population had the same probability of inclusion in the study. Probability proportionate to size sampling was used to determine the sample size per market ensuring that

markets with more stalls had a larger sample size. Table 2 below illustrates the proportionate samples.

Table 2: Study Sample Distribution

Site/Market	No of Stalls	Sample
Jericho	476	37
Uhuru	426	33
Umoja One	320	25
Umoja Two	72	5
Total	1294	100

Source: Survey Data

The qualitative study sample size was guided by the concept of saturation, where the collection of new data did not shed further light on the issue being investigated (Malterud et al., 2016). The total number of key informant interviews was six and four focus group discussions. The key informants were identified through purposive sampling and snowballing techniques. The researcher conducted one focus group discussion in each market. Each focus group discussion had at least three to six informal sector workers market officials. The informal sector workers market officials were identified through purposive sampling and snowballing techniques.

3.5.2. Sampling procedure

Quantitative data were collected through face to face interviews with 100 informal sector workers. Systematic random sampling method guided the selection of the informal sector workers market stalls. The stalls were chosen at an interval of 10, the interval calculated by dividing the total number of stalls by the sample size. The random pick was 10 based on Bryman, (2012) who suggested the use of the last two digits to find the number yielding a number of 10 or below to determine the random pick, in this case it is 10. The stalls were arranged according to their stall numbers. This meant that the tenth stall was the first to be in the sample. Thereafter, every tenth stall was selected.

Four focus group discussions and six key informant interviews facilitated collection of qualitative data. Purposive and snowball sampling guided the research in identifying and selecting respondents. Key informants from all the organizations that provided the payment options systems including NHIF and banks were made available to be interviewed. The focus group discussion comprised of 3 to 6 officials of the informal sector worker market.

3.6. Data Sources and Collection Methods

The study used both secondary and primary data sources.

3.6.1. Secondary data

The secondary data was obtained by reviewing relevant literature including books, journals and thesis projects. Data was extracted matching key thematic areas of this study which included: social protection; available SHI contribution options; technological advancement in SHI payment options and factors that influence SHI coverage. Grey and scientific literature was identified from key institutions such as the University of Nairobi as summarized in Table 3.

Table 3: Secondary data

Theme	**Source**
Social Protection	University of Nairobi from the Faculty of Arts, Department of Sociology; University of Nairobi from the School of Business, Overseas Development Institute from the social protection and social policy program; International Labour Organization from the health services sector; The World Bank from the social protection department; Economic Commission for Latin America and the Caribbean- from the social development work areas; United Nations Children's Fund from child protection

	and inclusion; COMCEC from the poverty alleviation working group
Available SHI Contribution Options	International Labour Organization from social finance and informal sector
Technological Advancement in SHI Payment Options	Strathmore University from the faculty of information technology; USAID from global health; Business Call to Action from the research centre
Factors that Influence SHI Coverage	University Of Nairobi from the school of mathematics, department of economics; World Bank from research and publications; International Labour Organization from the health services sector World Health Organization from publications

Source: Survey Data

3.6.2. Primary Data Collection

The interview schedule was pre-tested at the Kariobangi South Market in Embakasi West constituency which had a total of 156 stalls. Pre-testing ensured validity of the data collection tool. This enabled the researcher to check the flow and clarity of research questions. The data generated from the pre-test open-ended questions was used to pre-code open ended questions. Most importantly the pre-test data was not used in the analysis of this study. The pre-test involved 12 informal sector workers as suggested by Whitehead et al, (2016), as a sufficient sample size for a pre-test study. The informal sector workers were selected through systematic random sampling at an interval of 10; with the starting point being 10.

Quantitative data was collected through face to face interviews of 100 informal sector workers. The questionnaires were developed and administered with both open and close ended questions. The data collection tool for the informal sector workers data collection was a semi structured interview schedule (Appendix 2.1).

Qualitative data was collected through key informant interviews (KII) and focus group discussions (FGD).The KII and FGD were administered through a KII guide and FGD guide respectively to obtain additional information. The key informant interviews were from specific organizations (NHIF and organizations that provide payment systems for the NHIF). The KII guide (Appendix 2.2) and FGD guide (Appendix 2.3) were the main qualitative data collection tools. The interviews were recorded through field notes. Table 4 illustrates the link between the research questions, data needs and proposed data collection methods.

Table 4: Data Needs Table

Research Question	**Data Needs**	**Type of Data**	**Source(s) of Data**
How do beliefs and attitude determine the preferred NHIF contribution payment options?	Advantages and disadvantages, service provider, bank preference	Qualitative and Quantitative	Interview Schedule and key informant interviews and Focus Group discussion
What role does social pressure play in the choice of payment options among the ISWs?	Influencers, Influencers Advise	Qualitative and Quantitative	Interview Schedule and key informant interviews and Focus Group discussion
How does technology affect the choice of payment option among the ISWs?	Type of phone, Network, availability, Internet Access, affordability,	Qualitative and Quantitative	Desk review; Interview Schedule and key informant interviews and Focus Group discussion

3.7. Data Processing and Analysis

The quantitative data was entered into the Statistical Package for the Social Science (SPSS) and data cleaned by running frequencies to establish any outliers. The quantitative data was analysed in descriptive statistics. The results were presented in summary tables and figures generated in SPSS and excel.

The qualitative data was analysed using thematic analysis. The field notes were transcribed into MS Word tables. Codes were developed based on the theoretical framework and those that emerged from the data collected. These codes were collapsed into themes which formed the basis for the reporting of results. The data was triangulated with secondary data from literature as well as the results of the quantitative analysis. The results were also shared with participants to ensure validity.

3.8. Ethical Considerations

The researcher obtained a research permit from the Kenya National Commission for Science, Technology and Innovation (Ref: NACOSTI/P/17/98038/18030), dated 10th July, 2017 (Appendix 1). In line with the National Commission for Science, Technology and Innovation (NACOSTI) requirements clearance was also obtained from the National Hospital Insurance Fund, Nairobi County Commissioner and Nairobi County Director of Education.

Informed verbal consent was obtained from the selected Informal sector workers. The consent statement was part of the interview schedule. The Informal sector workers were informed about the purpose of the study. The participants had the right to stop participating in the research. If any participant felt the need to discontinue their involvement in the research because of any reason they were not stopped.

The researcher ensured information given remained private and the participants' details concealed through coding of names to guarantee confidentiality. The study only focused on informal sector workers with over 18 years.

The chapter that follows discuss the relationship between the independent variables and the options that informal sector workers select for payment of NHIF contributions. Each independent variable is discussed in relation to how it influences the choice of payment option. The discussion begins with an analysis of how attitudes and beliefs gained from experience, advantages and attitude towards service providers influence whether informal sector workers chose banking, e-wallet, or *M-pesa* or a combination of these.

This is followed by a section on social pressures and specifically how influencers such as family and friends influence the choice of options. The last section discusses how technology determines the options chosen. In analysis of these options, the discussion will also examine how various demographic aspects such as age, education and gender, among others, related to these options.

CHAPTER 4: FACTORS INFLUENCING CHOICE OF NHIF PAYMENT OPTIONS AMONG INFORMAL SECTOR WORKERS

4.1. Introduction

The purpose of this study was to identify the choice of social health insurance payment platforms among informal sector workers (ISWs). The availability and flexibility of payment options enables informal sector workers to make regular payments resulting to less defaults and an increase in healthcare access. The descriptive statistics presented involved data from questionnaires, informant interviews, and focus groups. This chapter presents the results of data that was collected and analysed. The results are presented in form of graphs, summary tables, charts and figures. The aim of the findings was to identify the influence of the choice of social health insurance payment options among informal sector workers (ISWs). The chapter is presented in four sections: section one presents results on payment options, section two on respondents' attitudes and beliefs towards *M-pesa*, and Banks; section three the social pressures influencing respondents' choice of payment options, and section four the technology and choice of payment option.

4.1.1. Respondent Characteristics

The demographic outline provided understanding of the general profile of the study participants. The study sample involved 100 respondents, 69% of whom were female and the remaining 31% male. This disproportionate gender representation was attributed to the high number of tailors and hairdressers, professions that were predominantly occupied by women. While the age of the respondent ranged between 18 and 67 years, 59% of the respondents were between 18 and 37 years of age, supporting the theory of 'the youth bulge' in Sub-Saharan Africa, as well as absence of formal employment opportunities, and the capacity of the informal sector to absorb the unemployed youths. Of note, 41% percent of the respondents indicated they had attained some form of higher education while 58% of the respondents had primary and secondary education, and only 1% had no formal education. Also, the findings indicated that only 49% of the respondents were married, whereas 21% of the respondents were cohabiting; although, they indicated that they considered their status as married, even without legal proof. It was found 67% of the respondents had children below the age of 18 years. About job designations, most of

the informal sector workers interviewed were tailors at 42% while the retail, salons and barber shops were at 46% with small kiosks, groceries, eateries, and cobblers each at 1%. Most of the interviewed informal sector workers earn a daily income of between 500 and 5000 Kenya shillings. However, 4% were unable to give an income estimate, citing market volatility. Results on respondents' demographic characteristics are summarised in Table 5.

Table 5: Respondent Characteristics

Characteristic	Category	Frequency (n=100)
Gender	Female	69
	Male	31
Age	18 – 27	24
	28 – 37	35
	38 – 47	27
	48 – 57	11
	58 – 67	2
	over 68	1
Education	Never attended school	1
	Primary	19
	Secondary	39
	Vocational Training	11
	College	26
	University	4
Marital Status	Single/ Never married	28
	Married	49
	Divorced/ Separated	2
	Cohabiting	21
Dependents under 18 years	Yes	67
	No	33
Number of Children	None	33
	1 – 4	63
	5 – 9	4
Business Type	Salon, barber shop, cosmetics	17
	Retail Shop	17
	Wholesale shop	12
	Cereals/green grocer	1
	Food kiosk/ hotel	1
	2nd hand clothes/ item dealer	2
	Tailor	42
	Cobblers	1
	Other	7
Average Monthly Income	500 – 2000	30
	2001 – 5000	19
	5000 – 10000	21
	Above 10000	26
	Don't Know	4

Source: Survey Data

4.1.2. NHIF Membership and Contribution

Data on membership and contributions to NHIF indicated respondents who had and those who did not have the cover. Table 6 shows that about 65% of the respondents had the NHIF cover while 35% did not have the NHIF cover. Those respondents without the NHIF cover reported that the premium contributions of Kshs500, presented the main obstacle to take the cover because individuals were barely meeting their basic needs. On the regularity of contribution among the informal sector workers enrolled to the fund, 83.8% of the respondents with NHIF membership made their monthly contributions while only 13.2% made annual payments. Despite 65% of the respondents having NHIF only 63.1% were active members with 36.9% having defaulted. Respondents who defaulted indicated that the defaulting was because of increase in NHIF monthly premium to Kshs 500 while others referenced their leaving formal employment for the informal sector. Although most of the respondents who complained about the increased cost of monthly premium, they were unaware that the increase was associated with the improved NHIF package which included inpatient and outpatient coverage. However, whether the ISW was an active or an inactive member, they were still considered NHIF members.

Table 6: NHIF Membership and Contribution

	Category	Frequency	Percentage
NHIF Membership (n=100)	Yes	65	65
	No	35	35
Regularity of contribution to NHIF (n=65)	Monthly	55	83.8
	Yearly	10	13.2
Member Activity (n=65)	Active	41	63.1
	Inactive	24	36.9

Source: Survey Data

In summary of the 65% of the respondents that had NHIF cover, 55 (83.8%) made monthly contribution whereas 10 (13.2%) made annual contribution (Table 6). This shows that most informal sector workers interviewed preferred the monthly contribution option which influenced the type of payment option the informal sector workers chose. In addition, data from the

interviews showed that that monthly payments increased the chances of default as some members said that sometimes they did not have money to pay given their irregular and fluctuating incomes.

4.1.3. Alternative Health Insurance among Non NHIF Members

Studies suggest that enrolment among the informal sector workers remains low at 16% compared to 98% in the formal sector. Kamau et.al, (2015) found only 1% of women in the informal sector had enrolled with an alternative health insurance cover. This is because the non-NHIF members lacked information on the choice of payment option. The study sought to know whether the 35% of respondents without the NHIF cover had any alternative health insurance and how they met their health costs and whether they were aware about NHIF payment options. Data on Table 7 indicates 91.4% of the respondents did not have the NHIF cover or any other alternative health insurance cover while 8.6% had some other forms of health insurance. Those without any health insurance cover were found to make out of pocket payments for their health bills. About 46.9% of respondents in this category made out of pocket payments for their health services while 28.1%, visited county council health care providers for free health care. The study also found that some of the respondents visited private health facilities because of better services given. They indicated from the interviews that on most occasions' public hospitals lacked medication and functional laboratories, hence referrals to private facilities.

Table 7: Alternative Health Insurance among Non NHIF Members

	Category	**Frequency**	**%**
Membership in health insurance other than NHIF (n=35)	Yes	32	91.4
	No	3	8.6
How health cost is met (n=32)	Cash payment	15	46.9
	City council hospitals and clinics	9	28.1
	Both cash and city council	8	25.0
Other health insurance (n=3)	CIC	1	33.3
	M-*tiba*	1	33.3
	Other	1	33.3
Information on payment options (n=35)	Yes	13	37.1
	No	22	62.9

Known payment options (n=13)	M-*pesa*	11	84.6
	E-wallet	1	7.7
	Other	1	7.7

Source: Survey Data

The study found that those without NHIF membership had CIC (33.3%), M-*tiba* (33.3%) and Societe Generale de Surveillance (SGS) (33.3%) as shown on Table 7. CIC insurance member paid for their cover using a standing order of 7,000 shillings per month for the comprehensive premium. *M-tiba* contributions were through an *M-pesa* pay bill and the respondent paid monthly. The respondent with *M-tiba* had a spouse with NHIF cover however the respondents preferred to pay for *M-tiba* for own insurance cover. The SGS cover was an individual that was of 23 years covered under the parents work cover.

4.2. Payment Options

The study noted that the choice of payment option by informal sector workers is important because they determined access and retention of informal sector workers to the national hospital insurance fund. The study sought to establish the available payment options among the respondents. Data was therefore collected on; Banking, *M-pesa* and the NHIF E-Wallet platforms. Table 8 represents preferred payment options for respondents with NHIF membership. From the study, about 35.4% of informal sector workers used both bank and *M-pesa* payment options when contributing their NHIF premiums, while 21.5% of the respondents made their contributions through *M-pesa* and 20% contributed through banks only.

Table 8: NHIF Payment options (exclusive of none NHIF members)

	Category	**Frequency**	**(%)**
The Used Payment options (n=65)	Bank	13	20
	M-*pesa*	14	21.5
	E-wallet	0	0
	None (formal employment)	6	9.2
	None (spousal formal employment contribution)	6	9.2
	Other	3	4.6
	Bank and M-*pesa*	23	35.4

Source: Survey Data

From the finding as presented on Table 8, the study found out that the e-wallet was largely unused. None of the respondents used the platform despite the payment option being introduced to allow individuals with irregular incomes to have a platform to save for the insurance. In this regard, many respondents indicated that they did not know how to use the e-wallet or whether the application existed. This was blamed on the challenges the subscribers go through while trying to use the platform. A key informant noted, for instance that: -

> *…the e-wallet application is tedious and difficult to understand even for NHIF staff. The application is more beneficial to NHIF as a direct contributory account[3] than to the informal sector workers (N2 KII, 9th October).*

Despite the low awareness about the E-wallet and its use, some key informants were optimistic that the application would be accepted over time as individuals became aware about it and how to use it.

In summary, data analysed showed that *M-pesa* (66.2%) was the most preferred payment option as well as one of the most common payment options used when respondents made contributions to NHIF. Banking came next followed by the E-wallet, which was largely unused given that it most respondents lacked information on the application.

[3] A direct contributory account allows contribution straight from the ISWs to NHIF accounts without third party transaction as is the case with banks and M-pesa.

4.3. Beliefs and Attitudes

Attitudes and beliefs act as positive or negative determinants of choice which informed the investigation on the positive beliefs and attitudes associated with individual payment options and as well as the negative beliefs and attitudes associated with payment options. Based on the theoretical framework attitudes and beliefs about payment options determine ones choice. In this section, the study sought to establish how beliefs and attitudes affect the choice of NHIF contribution payment options by informal sector workers. Informal sector workers had to choose their NHIF contribution option because participation in any payment option was voluntary.

4.3.1. Beliefs and Attitudes of *M-pesa* Payment Option

Choice of payment of options as influenced by beliefs and attitudes were analysed and summarized in Figure 3. The respondents were asked about the advantages that informed their choice of the M-*pesa* payment option.

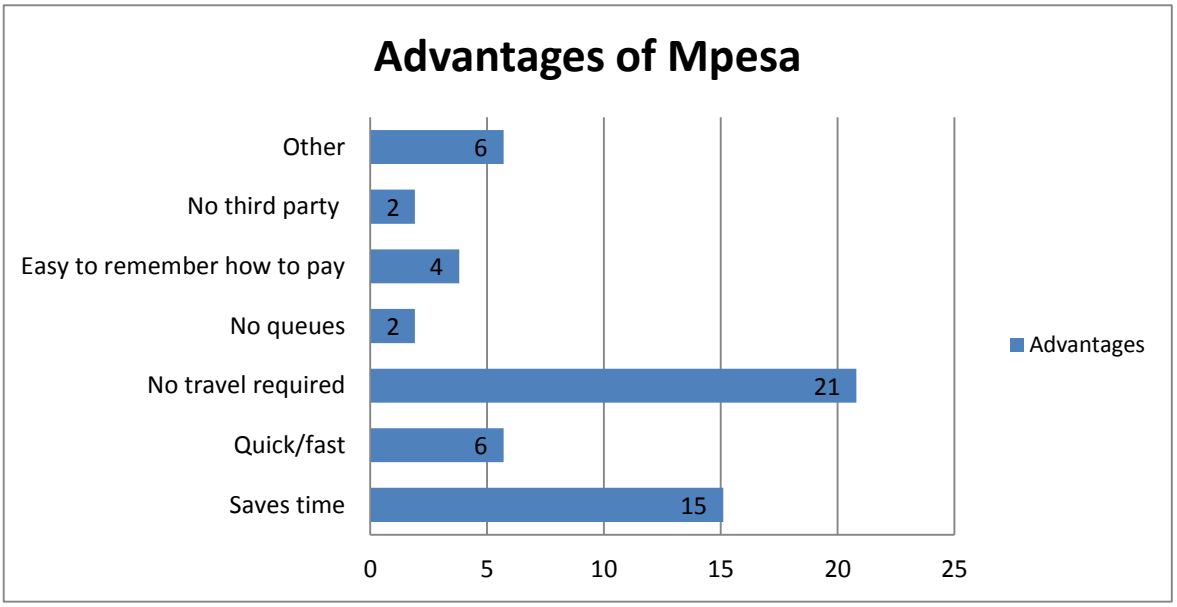


Figure 3: Advantages of *M-pesa*

About 21% of the respondents favored M-*pesa* because it required no travel time. This allowed them to be at their business premises and still be able to remit contributions. About 15% indicated that *M-pesa* required less transaction time and that transaction processing was fast because it was done on their mobile phones. The study also established that *M-pesa* was the most

believed payment option because it did not involve multiple agents but just the user and the mobile interface.

Further, the study sought to find out whether Informal sector workers using the *M-pesa* payment option experienced any challenges that gave the respondents negative beliefs and attitudes towards the platform. From the survey data, as shown on Figure 4, about 70.5% of the NHIF members had not experienced any challenges while making payments using *M-pesa* while 29.5% had faced some challenges.

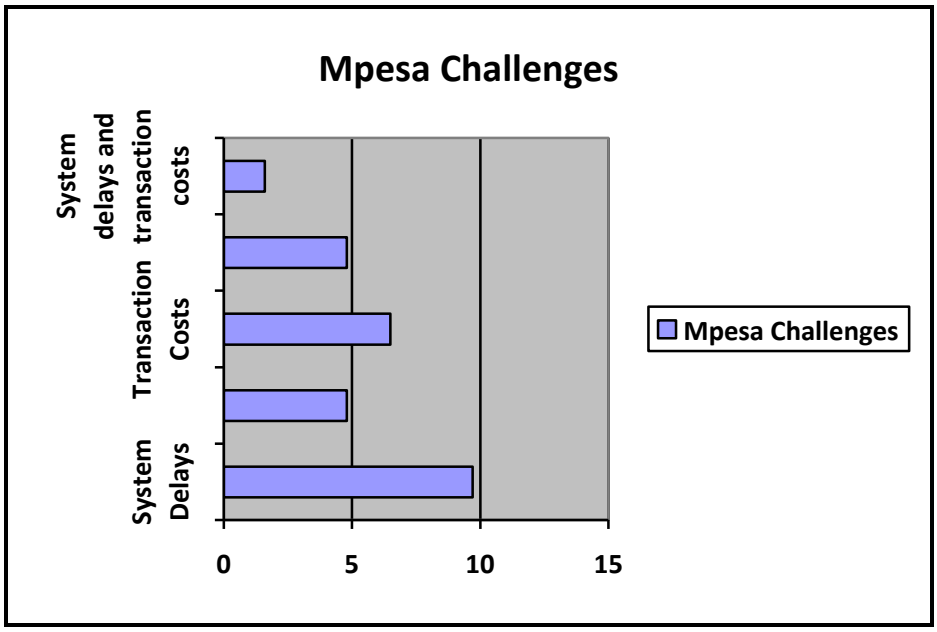


Figure 4: *M-pesa* challenges

The challenges included system delays, account error, transaction costs and not receiving transaction confirmation messages from the M-*pesa* service provider. The account errors outlined were based on use of the wrong account number (confusing the national identification number and NHIF number). However, the account errors were rectifiable at any NHIF office. Despite the ability to rectify the error, it attracted penalties when unresolved after the payment deadline which the Informal sector workers had to pay and this did not augur well with the respondents. In addition, the M-*pesa* service provider had transaction costs which the user had to pay alongside their contributions to NHIF.

The study further sought to understand if the informal sector workers would need to use other mobile money service providers to submit their NHIF payments. It was found out that the NHIF

mobile payment option was only useable by Safaricom subscribers through M-*pesa*. As indicated on Table 10, the respondents were found to have positive beliefs and attitude towards Safaricom mobile money service provider, followed by Airtel. None of the respondents mentioned the use of *Equitel* despite some of them showing they had an *Equitel* sim card. About 4.8% of the respondents indicated use of both Safaricom and Airtel lines while 1.6% used both Airtel and Orange lines.

Table 9: Mobile Service Providers

	Category	Frequency	(%)
Mobile Service Provider (n=65)	Safaricom	50	79.0
	Airtel	9	12.9
	Safaricom and Airtel	4	4.8
	Safaricom and Orange	1	1.6
	Airtel and Orange	1	1.6

Source: Survey Data

The respondents indicated that they favored use Safaricom mobile money platform (79%) because they conducted most of their business with their clients using this platform while those that preferred Airtel opined that it was a cheaper option to Safaricom. However, form the research findings, positive attitude and beliefs towards the mobile service providers was not based on ease of contribution towards NHIF but on the expansive use of mobile phones in the country especially for business communication.

4.3.2. Beliefs and Attitudes of Banking Payment Option

The study investigated advantages that the respondents associated with banking. Figure 5 below, shows the positive beliefs and attitudes that informed respondents' choice of the banking payment platform.

Among the respondents who opted for the banking payment option, 28% believed that their bank transactions were more secure and that their money was safe. In addition, about 18% reported that the issuance of receipt by banks provided them with proof of payment. Furthermore, the lack

of transaction costs and the presence of a bank teller, who informed the ISW in case of changes, was another reason that motivated the informal sector workers to prefer the banking system.

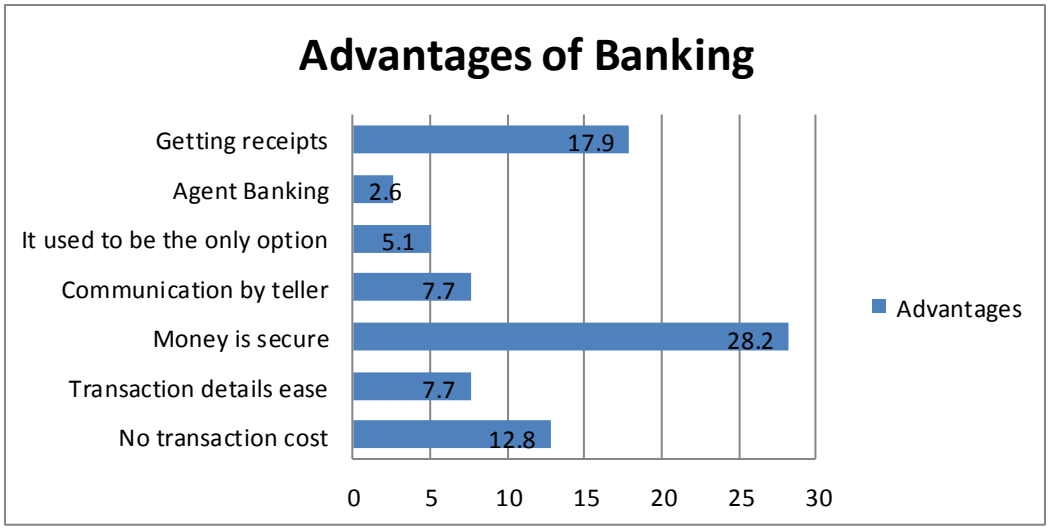


Figure 5: Advantages of Banking

In finding out whether the respondents had experienced any challenges while using the banking payment option to highlight negative beliefs and attitudes. Study found 88.5% of the respondents had not experienced any challenges however time wastage in banking queues came up as the main challenges as shown on Figure 6.

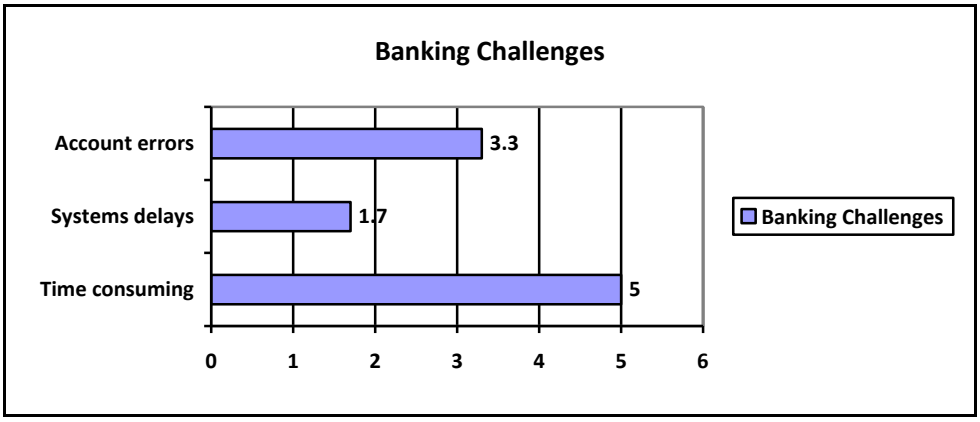


Figure 6: Banking Challenges

Although, most of the respondents using the banking system did not see this as an obstacle to using the platform they opined that the platform would be better off if this was confronted. In addition, some of the respondents indicated that some banks had frequent system delays

especially during system down time usually at months end. Other factors like account errors, when NHIF members confused the national identification number used for NHIF contribution with the NHIF number which was not used for contribution transactions, were the main challenges. However, the platform was used because respondent's money was not lost.

4.3.3 Bank of Preference

The study also analysed the informal sector workers' choice of banks. The respondents were found to have used various banks to submit their NHIF payments. As shown on Figure 7, Cooperative bank at 41% was the most favoured bank for contribution from the study respondents followed by Equity bank at 37%, Kenya Commercial bank 15%, and the National bank of Kenya 5%. Evidence from previous studies found that Equity bank was the preferred bank for account transactions by a majority of informal sector workers in Kenya, in addition to having the highest number of informal sector workers customers (Kamau et al. (2015; Waithanji, 2009). Despite Equity Bank having the largest market share of informal sector workers, in the study location, Cooperative bank had the highest number of branches compared to Equity bank explaining why the informal sector workers opted to use Cooperative bank. At the same time Cooperative bank was near the NHIF Buruburu branch and it provided a good customer experience in that it did not require NHIF members to be account holders to make contributions via the bank.

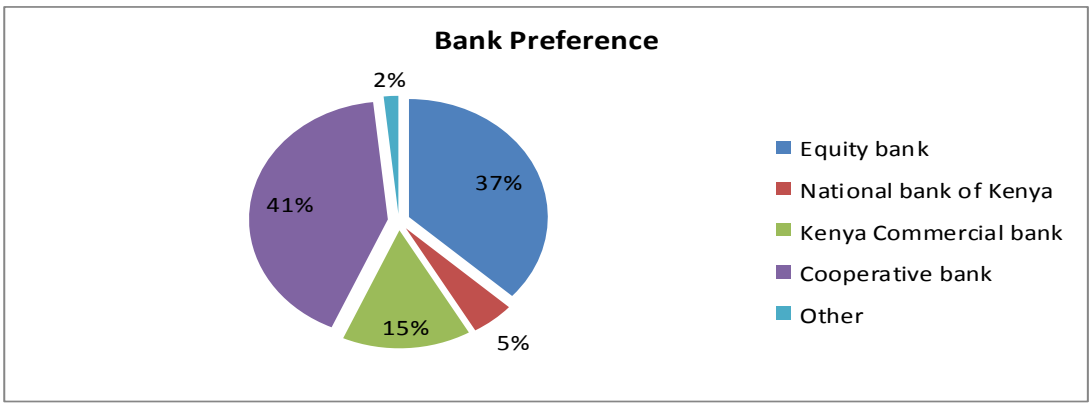


Figure 7: Bank Service Providers

While other banks like Post bank were available for the informal sector workers they did not have the desired services given that they had not operationalized their contract with NHIF to

receive NHIF member contributions. This was attributed to the lack of interest from Post bank to follow up with NHIF according to one of the NHIF key informants.

4.4. Social Pressure and Choice of Payment Options

The previous section sought to examine the relationship between beliefs and attitudes and choice of payment option by informal sector workers. The section found that informal sector workers based on the advantages and disadvantages associated with payment options chose the options that best suited them. The study found that beliefs and attitudes determined choice of payment option. In this section 4.4, the study seeks to examine the relationship between social pressure (social influencers) and the choice of payment option.

4.4.1. Social Influencers

The theory of reasoned action posits that social influencers such as friends, family or spouses provide motivation to embrace or not to embrace a particular payment option. This is because society influences the choices one makes. Table 11 indicates that about 33.8% of the informal sector workers consulted National Health Insurance Fund (NHIF) staff to make the decision on what payment option to use to make their contribution. About 7.7% consulted with relatives while about 13.8% consulted friends, church members, adverts and internet searches on how to make the NHIF payment. About 16.9% did not consult anyone while 27.7% consulted their spouses. Similar outcomes as those of Kimani et al. (2012) and Muhia et al. (2011) emerge in this study that marital status of individuals exerted influence on choices couples made. It emerged through the focus group discussions that the NHIF staff and spouses were the greatest form of social pressure that shaped the choice of payment options. The respondents trusted information provided by NHIF staff on payment options. However, some bank key informants indicated that while the above were considerable factors, social pressure would be mitigated through giving individuals good customer service.

Table 10: Social Pressure Influencer

Social Pressure	Category	Frequency	Percent
Contributing Influencer (n=65)	No one	11	16.9
	Spouse/partner	18	27.7
	Relative	5	7.7
	NHIF Staff	22	33.8
	Other	9	13.8

Source: Survey Data

To make good decisions, it is advisable to confer from others who have a better understanding on the specific issue. In most cases individuals seek advice or discuss amongst themselves; friends, partners and relatives about the best way forward. On making decisions on the best payment platform to use, majority of the single respondents consulted relatives 60% while 44.4% of cohabiting respondents consulted friends, and church members. Interestingly, none of those that were cohabiting consulted relatives when making choice of payment option as shown on Table 12. As suggested by the theory of reasoned action, 77.8% of those married consulted their spouse.

Table 11: Marital Status and Influencer

		Influencer					
Marital Status (n=65)	**Category**	**No One**	**Spouse**	**Relative**	**NHIF Staff**	**Other**	**Total**
Single/Never married	Frequency	3	1	3	4	1	12
	Percentage	27.3	5.6	60.0	18.2	11.1	18.5
Married	Frequency	5	14	2	13	4	38
	Percentage	45.5	77.8	40.0	59.1	44.4	58.5
Cohabiting	Frequency	3	3	0	5	4	15
	Percentage	27.3	16.7	0.0	22.7	44.4	23.1
Total	Frequency	11	18	5	22	9	65
	Percentage	100	100	100	100	100	100

Source: Survey Data

4.4.2. Influencer's Payment Option Recommendation

Based on the findings on Table 13, the study found that social influencers played a role in providing recommendations that influenced the choice of payment option selected by some of the sample respondents.

Table 12: Influencers payment option Recommendation

Category	Frequency	(%) (n=65)
Bank	22	33.8
M-*pesa*	33	50.8
Not applicable	10	15.4

Source: Survey Data

Majority of those who were consulted to select the choice of payment option, 50.8% suggested the use of M-*pesa* while 33.8% was suggested on the use of banks; however, while about 15% of the respondents did not have influencers it was clear that the influencers were not aware of other payment platforms such as the E-wallet.

Table 13: Influencers recommendation and Respondent payment option

		Respondents preferred payment options				
Influencers recommended payment option	**Category**		**Bank**	**M-*pesa***	**Not applicable**	**Other**
	Bank	Frequency	15	7	0	0
		Percentage	75.0	16.3	0	0
	M-pesa	Frequency	3	29	1	0
		Percentage	15.0	67.4	100	0
	Not Applicable	Frequency	2	7	0	1
		Percentage	10.0	16.3	0	100

Source: Survey Data

Among the respondents who consulted various influencers, from those who advised on M-*pesa* about 67.4% opted for the M-*pesa* payment platform. While those who proposed the banking platform, 75% agreed to the payment option.

In summary, the study found that from the point of account opening the advice given by NHIF staff posed the impact on the choice of payment option. Followed by spousal influence which determined choice of payment option, the advice from a husband or wife determined the payment option the informal sector workers used contributing to NHIF. The most suggested payment option was *M-pesa*. This was because given their irregular and fluctuating incomes it allowed for payment as soon as they had the funds.

4.5. Technology and choice of payment options

In the previous section, this work focused on social pressure and choice of payment option among informal sector workers. The study found that social pressure determined choice of payment option as suggested by the theory of reasoned action. This section examines the relationship between technology and the choice of payment option. Also this section seeks to answer the third study question: whether or not technology influenced the choice of payment option among informal sector workers in Nairobi's Eastland region. This is based on the determinants for acceptance of technology as perceived usefulness and perceived ease of use. Some of the vectors in this study section include access to mobile phones, type of mobile phones and accessibility to the internet.

4.5.1. Type of Phone and Affordability

Ownership of a mobile phone demonstrates that the ISW can choose to download the e-wallet application for use as a payment platform through, for example, an android or windows operating system, and also an automatic access to M-*pesa*. Table 15 lists phone operating technologies used by the respondents. From the findings, about 47.7% of the respondents had access to android phones. While 6.2% had phones without android or windows operating systems, 10.8% had windows phones. Majority of the respondents, about 77%, had bought phones worth more than Kshs 3001, which implied that most of the IWS's could access smart phones.

Table 14: Phone operating system (OS) and Affordability of Phones

	Category	Frequency	(%)
Phone operating system	**Android**	31	47.7
	Windows	7	10.8
	Don't Know	21	32.3
	No Android and Windows	4	6.2
	Both Android and Windows	2	3.1
Cost of Phone	**500 – 3000**	9	13.8
	3001 – 5501	15	23.1
	5502 – 10000	18	27.7
	10001 and above	17	26.2
	Gifts	6	9.2

Source: Survey Data

While the mobile phones were readily available to majority of the respondents, they admitted to an inability to utilize the e-wallet application. The reason for this trend is the lack of awareness. They are unaware on how to use or access the e-wallet on their smartphones. Similar findings from other studies have demonstrated that when it comes to adopting new technology people are impeded by their knowledge and preferences (Waithanji, 2009). In fact, ease of use of technology – or freedom from difficulty with the use of mobile platforms – is the primary influence on an individual's acceptance of mobile phone services (Razak & Ismail 2011). Drawing from the information provided by respondents, it was evident that there is a knowledge gap on the use of the mobile phone's e-wallet service.

4.5.1.1. Phone technology, age and gender among ISWs.

The study outlines findings on why the respondents with access to smartphones, were disinterested in the NHIF e-wallet application. In addition, the study sought to find out whether phone technology was influenced by gender or age of the respondents.

The survey found that over half of the female tailors and hairdressers owned smartphones. Eight out of the nine female hairdressers and ten out of the nineteen female tailors had smartphones.

The same applied to men, eight out of fifteen men had smartphones as shown on Table 16. Economides and Grousopoulou, (2008) found that most women take ten photos per week while most men do not take any photos, because of the need to use photos to market products. The study observed that the women took photos after hairstyling or tailoring which were used to make a product catalogue.

Table 15: Cross tabulation of Gender, Age and Phone operating system (OS)

Categories(n=65)				Type of Phone Operating System					Total
				Android	Windows	Dont Know	No application	Both Android and Windows	
Salon, barber shop, cosmetics	**Gender**	Female	Frequency	5	3	1			9
			Percentage	100.0%	75.0%	100.0%			90.0%
		Male	Frequency	0	1	0			1
			Percentage	0.0%	25.0%	0.0%			10.0%
Retail Shop	**Gender**	Female	Frequency	4	1	6	1	0	12
			Percentage	100.0%	100.0%	100.0%	50.0%	0.0%	85.7%
		Male	Frequency	0	0	0	1	1	2
			Percentage	0.0%	0.0%	0.0%	50.0%	100.0%	14.3%
Wholesale shop	**Gender**	Female	Frequency	4					4
			Percentage	66.7%					66.7%
		Male	Frequency	2					2
			Percentage	33.3%					33.3%
Cereals/green grocer	**Gender**	Female	Frequency	1					1
			Percentage	100.0%					100.0%
2nd hand clothes/ item dealer	**Gender**	Female	Frequency	1		1			2
			Percentage	100.0%		100.0%			100.0%
Tailor	**Gender**	Female	Frequency	8	2	8	1	0	19
			Percentage	80.0%	100.0%	72.7%	50.0%	0.0%	73.1%
		Male	Frequency	2	0	3	1	1	7
			Percentage	20.0%	0.0%	27.3%	50.0%	100.0%	26.9%
Other	**Gender**	Female	Frequency	1		2			3
			Percentage	25.0%		100.0%			50.0%
		Male	Frequency	3		0			3
			Percentage	75.0%		0.0%			50.0%

Categories(n=65)			Type of Phone operating system					
			Android	**Windows**	**Don't Know**	**No application**	**Both Android and Window**	**Total**
Age	**18 – 27**	Frequency	5	1	3	0	1	10
		Percent	16.1	14.3	14.3	0	50	15.4
	28 – 37	Frequency	13	3	6	1	0	23
		Percent	41.9	42.9	28.6	25	0.0	35.4
	38 – 47	Frequency	7	2	8	3	1	21
		Percent	22.6	28.6	38.1	75	50	32.3
	48 – 57	Frequency	6	1	2	0	0	9
		Percent	19.4	14.3	9.5	0	0.0	13.8
	58 – 67	Frequency	0	0	2	0	0	2
		Percent	0	0	9.5	0	0	3.1
	Total	Frequency	31	7	21	4	2	65
		Percent	100	100	100	100	100	100

Source: Survey Data

From the findings, as well as observations, the female and male respondents owned smartphones phones. In contrast, those above 58 years did not own smartphones while more than half of those below 37 years had smartphones as shown on Table 16. The study of affordability of mobile phones was essential to this research, as it determined the accessibility and usability of e-wallet payment platform. It was found that phone technology, gender or age did not influence choice of payment option. As shown on Table 16, hairdressers and tailors had smartphones while green grocers did not. It was found that some Informal sector workers had access to windows and android phones but lacked information on the e-wallet platform and its usage.

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4.5.2. Network Availability and Choice of Payment Option

On network coverage, the analysis indicated that 96.9% of the informal sector workers had access to network coverage. Although about 3.1% mentioned their network went down when the network traffic was congested. Thus, network congestion could affect access to payment options that rely on network coverage.

Table 16: Network Coverage

	Category	Frequency	(%)
Network Coverage (n=65)	Yes	63	96.9
	No	2	3.1

Source: Survey Data

Therefore, since the payment options focus on accessibility to stable broadband connections, this study investigated and identified the disparities in network connections. As a matter of fact, network connections can enable access and utilization of NHIF services through the mobile money transfer service and the downloading of NHIF e-wallet. In conclusion, the study established that all the markets had access to mobile network coverage, but experienced network coverage challenges due to high traffic. The access to network coverage would allow the respondents to use the online NHIF payment platform, to enable timely remittance of member contributions, and maintenance of up-to-date payment for individual accounts.

4.5.3. Internet Access and Choice of Payment Option

Further, the study sought to investigate the availability of internet access through the available networks. If individuals had no access to internet, this could be an indicative reason for disuse of the online platforms. Figure 8 indicates findings on internet accessibility among sampled respondents.

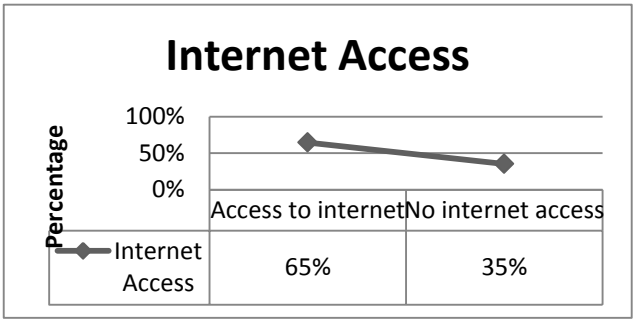

Figure 8: Internet Access

On access to the internet, while 35% had no access to the internet as shown above, 65% of the informal sector workers were found to have access. The respondents had smartphones but did not access the internet by choice. They bought smartphones for other reasons, such as the preference for the appearances and trends. From the information gathered, those without internet access were mostly older persons who had an internet enabled phone but lacked the knowledge on how to access the internet. Owning a smartphone with a windows or android operating system that can access the internet, enables informal sector workers to download and use the e-wallet application. However the informal sector works have smartphones and internet access but lack information on how to access and use the e-wallet.

The informal sector workers who had internet access, about 52.3% had self-sponsored internet that they bought on their own using bundles or airtime. On the other hand, 6.2% accessed the work place internet. The use of work place internet was common in Umoja One market, which had two internet hotspots – one was distributed by an individual at 50 Kenya shillings per month while the other was distributed by Surf spot at 100 Kenya shillings per month. In addition, as shown on Figure 9, about 6.2% accessed other *wifi* networks such as Safaricom home fibre and church *wifi*. The market officials mentioned that although the market had internet connection, only the youth were interested in accessing the internet. They also mentioned that older persons had smartphones but did not know how to use the internet, indicating a variance between the youth and the older persons. The finding is supported by Wakari (2014) who observed that informal sector businesses operate with hardly any technology.

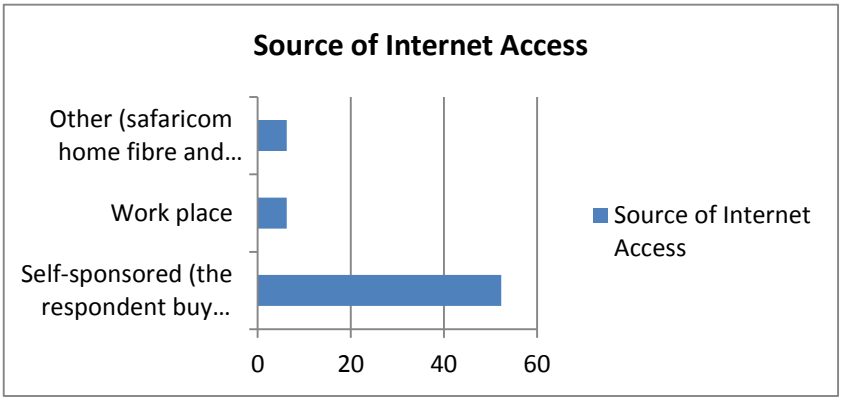

Figure 9: Source of Internet Access

4.6. Discussion on Findings of the Study

Based on the findings of this study, the research on the respondents' attitudes and beliefs, social pressures, technology, and choice of payment option surfaced that attitudes and beliefs as well as social pressures influence the choice of the payment options among the informal sector workers.

4.6.1 Attitudes and Beliefs and Choice of Payment Option

The first objective of the study was to investigate how beliefs and attitudes affect the choice of NHIF contribution option by informal sector workers. The study found that attitudes and beliefs influence choice of payment option among the respondent informal sector workers. Based on the findings, most of the respondents indicated that they mainly preferred the M-*pesa* payment option over the banking option while the e-wallet was unused. The banking payment option was considered safe by its users, however majority of the respondents indicated that they did not prefer the banking option because it was more time consuming compared to the M-*pesa*. The argument behind this preference of M-*pesa* payment option was because the M-*pesa* option provided ease of access because it is a mobile based platform. M-*pesa* had many agents in the market where the respondents operate businesses in fact some businesses operated as agents themselves. This was found to be a major advantage compared to banks which were only found at specific locations mostly outside the market. Furthermore, the M-*pesa* option allowed users to transact their payments in the business premises.

"…using M-pesa is very useful as I don't have time between work and taking care of my family to go to the bank and make payments regularly" (Respondent 30)

Essentially, the M-*pesa* option required less transaction time and was easily done through the use of mobile phones. These two aspects contributed largely to the advantages of why the respondents preferred M-*pesa* compared to the banking option. It is important to note that the M-*pesa* option had additional transaction costs. In addition, M-*pesa* could not be used to pay penalties because it did not have a penalty payment option.

"When I need to pay for penalties I have to go to a bank which is time consuming because M-pesa doesn't reflect penalty payment in NHIF accounts" (Respondent 24)

Despite the disadvantages of M-*pesa*, it remained the most favored option based on its convenience. These finding are echoed by Haas and Nagarajan (2011) report on 'M-*pesa* and Access to Health in Kenya', where they highlighted that the M-*pesa* money transfer platform had largely enabled NHIF to extend health services to informal sector workers by enabling them to minimize travel to NHIF offices and time spent in long lines away from productive livelihood activities.

According to the theory of reasoned action, attitude and beliefs relate to actions with positive outcomes (advantages) and negative outcomes (disadvantages). An informal sector workers' perception of usefulness associated with a payment option positively influences the attitude towards a choice (Ismail and Razak, 2011). This explains the preference for M-*pesa* over other payment options. Equally, if it were complicated and difficult, the preference would change. Below is a case of Respondent 40 on an experience that generated a negative attitude.

"I used agency banking once but the transaction was fraudulent. The agent generated a fake receipt. NHIF could not help I had to pay the contribution again" (Respondent 40)

As suggested by Ismail and Razak, (2011) the negative attitude associated with the payment options, such as fraudulent bank agents, long queues in banks and the distance

travelled to access banking facilities influenced the choice of payment options that informal sector workers choose.

This study concludes that attitudes and beliefs determine the choice of payment option based on the advantages and disadvantages associated with the choice of payment option. In fact, these are the negative and positive outcomes of the options that met informal sector workers needs and assured them of good service, security, saving time, accessibility and ease of use. Positive beliefs and attitudes in regard to payment options enabled regular payments, decreasing the chances of defaulting, as informal sector workers may sometimes have money to pay given their irregular and fluctuating incomes and would use the most suitable payment option.

4.6.2. Social Pressure and choice of payment option

The second objective of the study was to determine the role social pressure plays in the choice of payment options among informal sector workers. Based on the findings on the role of social pressure from friends, family or spouses, on the choice of payment options among informal sector workers, the study found out that most informal sector workers decided on a payment option based on what was suggested by those they consulted. Muhia (2011) pointed out that marital status of household heads did actually influence the NHIF uptake. Similarly, Kimani et al. (2012) outlined that in households, marital status is a key determinant of uptake of social health insurance in that spouses consulted each other while making the choice of insurance and choice of payment option. In the study findings, similar opinions surfaced.

> *"The informal sector workers will always use the option the spouse suggests. If I tell my wife which option to use that's what I expect her to use" (J FGD)*

Individuals consulted were found to provide recommendations that influenced the choice of respondent's payment option based on their understanding and experience of use of payment option. The theory of reasoned action suggests that social ppressure influences an individual to either perform or not perform a behavior (Tlou, 2009; Ajzen & Fishbein, 1975).

"When I opened my NHIF account I was advised by NHIF staff to use the M-pesa payment option. I was told it was the best option for informal sector workers. From that point on I have used M-pesa to make my NHIF contributions" (Respondent 30).

As highlighted by respondent 30, social pressure from NHIF staff determined the choice of payment option. While there were studies that disputed the level of influence of social pressure on an individual choice (George, 2004; Shih and Fang, 2004), more recent studies including (Shin et al. 2009; Lu et al. 2009; Jayasingh & Eze, 2009) found that there exists a positive direct influence between social influence and choice.

In conclusion, it is apparent that the choice of payment options is influenced by respondents' social pressures. More than half of the respondents were influenced by NHIF staff.

4.6.3. Technology and choice of payment option

The third objective of the study was to understand how technology affects the choice of payment option among informal sector workers. The study found that choice of payment option is influenced by technology but in the void of information it would not be of use. Considering access to technology would essentially influence the choice of payment option, the findings showed that; at least over half of the informal sector workers had access to smartphones, sufficient network coverage and internet access, but none of the informal sector workers had downloaded the NHIF e-wallet application. Below, Respondent 9 sheds light on the reason why the e-wallet was not used.

"I have never heard of the e-wallet but I need my phone to communicate with my clients especially on WhatsApp" (Respondent 9)

The lack of knowledge on the e-wallet option could suggest a lack of good marketing initiative from NHIF to the informal sector workers. However, a similar finding was also noted by Kamau et al. (2015), in that informal sector workers were found to have smart phones but largely used them for communication. The lack of usage of the e-wallet application despite the informal sector workers having access to the relevant technological capacity indicated a lack of technological interest and information. Rammile and Nel (2012), found out that there were two

determinants for acceptance of technology based on perceived usefulness and perceived ease of use. From the study findings, some of the informal sector workers had the technological capacity but lacked knowledge on the usefulness and ease of use of the e-wallet application. From the entire sample group only one non-NHIF member had knowledge of the e-wallet.

> *"I know that NHIF has the e-wallet, I know this because I am young, and I like to know trends in technology. The application is also similar to jambo pay which is used to collect parking fees by Kanjo[4]" (Respondent 98)*

Interest to use technology influenced the choice of payment option as indicated by respondent 98. However, according to a study done by Rammile and Nel (2012), informal sector workers were found to resist technology arguing that new technology requires them to change their daily routines. While Grossman et al., (2004) shows evidence that the health insurance industry had been slow in embracing new technology. The perceived long process in downloading the e-wallet application and the complexity of using the application was found to be a deterrent.

From the findings, it is apparent that choice of payment options is not only influenced by respondents' technological capacity but it is linked to lack of information on the technology. The study concludes that even with technology being perceived useful and user friendly, public awareness is necessary. There is an information gap resulting from informal sector workers lack of understanding of the benefits of the payment options. As such, the study finds that an informal sector workers technological capacity does not fully determine choice of payment option.

[4] Kanjo means government county council

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary

Social protection is a system that allows the poorest and vulnerable in society to have access to social services such as health. Social protection gained prominence in the 1980's with the financial crisis and the negative effect of structural adjustment programs. It has since been reinforced in the sustainable development goals set by the United Nations general assembly in 2015. There are three forms of social protection which include work programs, social insurance and social assistance. Work programs are programs where one is compensated for work done with food. Social assistance gives cash transfers or grants to the needy in society while social insurance programs are contributory programs that aid in time of financial hardship. Social health insurance is a form of social insurance and is a pillar of human development as it enables access to healthcare. In Kenya, social health insurance is implemented through the National Hospital Insurance Fund. The fund has compulsory contributions for formal sector employees and voluntary contributions for informal sector workers. Informal sector workers have different payment options for contributions which include M-*pesa*, banking and e-wallet.

Based on the theory of reasoned action, the study sought to investigate choice of NHIF payment option given that individuals are rational beings who use available information to make choices and as such, attitude and social pressures determine behavioral intention which results to choice (Fishbein & Ajzen, 1975; Tlou, 2009; Southey, 2011). The main assumption was that choice of a certain payment option could be influenced by an individual's attitude towards the outcome of use of choice whether positive or negative. In addition, the research applied the technology acceptance model to analyse technology influence on choice of platform used based on Davis et al. (1989) constructs namely; perceived usefulness and perceived ease of use as the main determinants of individual attitudes and perceptions.

The study focused on a vulnerable and marginalised population of informal sector workers (ISWs). The ISWs group was characterized as low-income earners and therefore, required social protection that cushions them from high health costs as well as provide quality accessible health care. Through this research analysis, most of the informal sector workers were found in Umoja

One, Umoja Two, Uhuru, and Jericho Markets of Nairobi's Eastland's region who came out as youthful and female, a trend similar to previous studies which suggested that a considerable number of informal sector workers were women (Kyengo, 2010). In addition, many of the informal sector workers were found to have attained a higher level of education. The attainment of high levels of education shed some light as to why there was knowledge on NHIF. Through the research, attitudes and beliefs developed through advantages and disadvantages were found to influence the choice of the payment options. Among the non-NHIF members, few were found to have an affordable alternative health insurance.

Most of the respondents preferred M-*pesa* over banking because of the efficiency M-*pesa* provided. M-*pesa* was convenient and made easy for many informal sector workers to make payments while running their business. However, the presence of transaction costs and the risk surrounding wrong entries long banking queues, and occasional system downtimes were the main challenges associated with the platforms. Despite the preference of M-*pesa*, some informal sector workers were excluded because they preferred to use other mobile money platforms. The study found out that these platforms were utilized due to respondent consultation with NHIF staff as well as advice from spouses making social pressures a major influence of choices of payments options used by the informal sector workers.

However, in view of technology, the study found out that technology did not entirely influence choice of NHIF payment option. It was evident that while majority of the informal sector workers had smart phones with windows and android operating systems many were unaware of the type of the operating system in their phones. While the assumption made at the beginning of the study was that the choice of payment option would be determined by the type of phone the informal sector worker used, the study surfaced that the informal sector workers' phones were used primarily for communicating and using of the M-*pesa* platform to transact. This essentially enforced the ideas of perceived usefulness as well as perceived ease of use, of which M-*pesa* service was easy to use as well as useful and provided for by the network. Whereas majority of the informal sector workers had access to the internet, which could be acquired through purchase of internet bundles of the network service providers or local market wireless connections, not a single respondent downloaded the e-wallet application.

5.2. Conclusions

Attitudes and beliefs, as shaped by advantages or disadvantages of payment options, determined the choice of payment option. The informal sector workers associated the payment option on an evaluation of its benefits and limitations. Despite the preference of M-*pesa,* some informal sector workers were excluded because they preferred to use other mobile money platforms that were inexpensive such as Airtel Money, instead of M-*pesa*. Moreover, social pressure influenced the choice of payment options. Most of the informal sector workers payment choices were influenced by their social pressure as well as their assessment of benefits attached to the payment option by an advisor which included the NHIF staff, spouses and friends. More than half informal sector workers had smart phones with access to the internet however they exude some level of resistance to technology and internet use.

5.3. Recommendations

The findings from this study have implications for the improvement of payment options that aim to increase inclusivity of informal sector workers. Further studies should be done in the other counties to ascertain similarities in choice of payment platforms as well as highlight direction on platforms to market with priority. This study suggests the following recommendations in support of the NHIF program among the informal sector workers in the Nairobi Eastland's Region.

1. Market the e-wallet platform given that it would be cheaper to use as well as bridge the information gap that respondents indicated that they did not know how to access and use the e-wallet platform.
2. Create mobile banking options for NHIF contributions to increase ease of use in collecting contributions.
3. Invest in community awareness and training among the informal sector workers training on available NHIF payment options.
4. For future studies, this work proposes investigation on why there is lack of payment option knowledge by beneficiaries. This is because the study found that the informal sector workers beneficiaries whose spouses contributed to NHIF, especially through formal employment, lacked knowledge on NHIF payment options.

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APPENDIX

Appendix 1: Copy of Research Permit

NATIONAL COMMISSION FORSCIENCE,
TECHNOLOGY ANDINNOVATION

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9th Floor, Utalii House
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P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/17/98038/18030**

Date: **10th July, 2017**

Sheba Yvonne Nyaronga
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Social health insurance payment choice among informal sector workers in Nairobi County: the case of National Hospital Insurance Fund (NHIF),"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **7th July, 2018.**

You are advised to report to **the Chief Executive Officer, National Hospital Insurance Fund, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Chief Executive Officer
National Hospital Insurance Fund.

The County Commissioner

Republic of Kenya

MINISTY OF EDUCATION
STATE DEPARTMENT OF BASIC EDUCATION

REGIONAL COORDINATOR OF EDUCATION
NAIROBI REGION
STATE HOUSE
P.O. Box 74629 – 00200
NAIROBI

Ref: RCE/NRB/GEN/1/VOL. 1

DATE: 12th July, 2017

Sheba Yvonne Nyaronga
University of Nairobi
P O Box 30197-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County on "**Social health insurance payment choie among informal sector workers in Nairobi County: the case of National Hospital Insurance Fund (NHIF).**"

This office has no objection and authority is hereby granted for a period ending **7th July, 2018** as indicated in the request letter.

Kindly inform the Sub County Director of Education of the Sub County you intend to visit.

AGNES THEURI
FOR: REGIONAL COORDINATOR OF EDUCATION
NAIROBI

Appendix 2: Data Collection tools

Appendix 2.1 Interview Schedule

INTRODUCTION

Good afternoon/ Habari, my name is Sheba Yvonne Nyaronga and I am conducting this study in fulfilment of my Master Degree in Development Studies at the University of Nairobi . You have been selected to participate in this study because you are an informal sector worker operating in this market. Your participation in the study is voluntary and any information that you provide will remain strictly confidential. If you agree to participate, you will be asked a series of questions regarding the NHIF payment options that you prefer and the reason for the preference. You are not obliged to answer every question; you may choose to not answer a question. The responses to these questions will enable me to understand the preference of payment options used by Informal sector workers in making contributions to the National Health Insurance Fund or to another agency and the reasons for the preferences.

May I begin the interview now?

a) Respondent agrees to be interviewed….. [continue]

b) Respondent does not agree to be interviewed….. [End]

Date of Interview: …….. Study Site: ……

Respondent: ……. Respondent Code: ……..

SCREEENING QUESTIONS

1. Which activity do you engage in to generate income (business)? .....
    1. Salon, barber shop, cosmetics
    2. Retail shop
    3. Wholesale shop
    4. Cereals/ green grocer
    5. Food kiosk/hotel
    6. 2nd hand clothes/items dealer
    7. Tailor
    8. Shoe maker (Cobbler)
    9. Other (specify)……

2. What is your average monthly income?
    1. 500 – 2000
    2. 2001 – 5000
    3. 5000 - 10000
    4. Above 10000
    5. Don't Know
3. Do you have NHIF?
    1. Yes (proceed with section A, B, C D)
    2. No (proceed with section A and E)

SECTION A: RESPONDENT CHARACTERISTCICS (Background Information)

4. Gender?
    1. Female
    2. Male
5. How old are you?
    1. 18 - 27
    2. 28 - 37
    3. 38 - 47
    4. 48 - 57
    5. 58 - 67
    6. Over 68
6. What is your the highest level of education?
    1. Never attended school
    2. Primary
    3. Secondary
    4. Vocational training
    5. College
    6. University
    7. Other specify.....
7. What is your marital status?
    1. Single/never married
    2. Married
    3. Divorced/separated
    4. Widowed
    5. Cohabiting
8. Do you have any dependents below 18 years?
    1. Yes

2. No

9. If yes how many?
    1. None
    2. 1 – 4
    3. 5 – 9
    4. Above 10

SECTION B: ATTITUDES AND BELIEFS

10. Is the membership active?
    1. Yes
    2. No (Specify last payment)
11. How often do you contribute to NHIF?
    1. Daily
    2. Weekly
    3. Monthly
    4. Yearly
    5. Not applicable (Defaulters)
    6. Other (Specify) ……
12. Which methods have you used to contribute
    1. Bank
    2. M-Pesa
    3. E-wallet
    4. None (was formerly employed before default)
    5. None (Spousal formal employment contribution)
    6. Other?
    7. Bank and M-Pesa
13. Which payment option do you prefer to use when contributing to NHIF?
    1. Bank (go to question 13 to 17)
    2. M-Pesa (go to question 18 to20)
    3. E-wallet (go to question 21 to 24)
    4. Not applicable (was employed defaulted after formal employment)
    5. Not applicable (Spousal formal employment contribution)
    6. Other(specify)
14. Why do you prefer the banking option (probe for advantages)?
    1. Lack of transaction costs
    2. Easy to confirm transaction details
    3. Safe- money can't be lost
    4. Proper communication – in case of changes the teller informs you

5. It used to be the only option
6. Agency banking
7. Getting receipts
8. Other (specify)

15. Which financial institution do you prefer to use when contributing?
    1. Equity bank
    2. National Bank of Kenya
    3. Kenya Commercial Bank
    4. Cooperative Bank
    5. Post Bank
    6. Other specify
16. Do you experience/face any challenges with the banking option?
    1. Yes
    2. No
17. If yes, what are the challenges associated with the use of banking option?
    1. None
    2. Limited banks in the area
    3. Time consuming
    4. System delays
    5. Account errors
    6. Other (specify)

15. Why do you prefer M-pesa (probe for advantages)? …….
    1. Saves time
    2. Quick/fast
    3. No travel required
    4. No queues
    5. Easy to remember how to pay
    6. No charges
    7. No third party (transaction is done by contributor)
    8. Other (specify)

19. Do you experience/face any challenges with the M-pesa payment option?

1. Yes
2. No

20. If yes, what are the challenges with the use of M-pesa payment option?
    1. None
    2. Limited M-pesa Agents in the area
    3. Time consuming
    4. System delays
    5. Account errors
    6. Transaction costs
    7. Other (specify)
21. Which mobile service provider would you prefer for mobile banking and why?
    1. Safaricom
    2. Airtel
    3. Orange/ Telecom
    4. Equitel
    5. Safaricom and Airtel
    6. Safaricom and Orange
    7. Airtel and Orange
22. Have they ever used the e-wallet?
    1. Yes
    2. No
23. If yes, why do you prefer the e-wallet (probe for advantages)?
    1. Awareness (know how)
    2. Ability to save
    3. Saves Time
    4. No travel time required
    5. Other (specify)
24. Do you experience/face any challenges with the e-wallet payment option?
    1. Yes
    2. No
25. If yes, what are the challenges with the use of e-wallet payment option?

a. None
b. Application download costs – what is the estimate?
c. System delays
d. Account errors
e. Other (specify)

26. What amount do you save to the e-wallet?
    a. 10 – 20
    b. 21 – 50
    c. 51 – 100
    d. Above 100

27. How regular?
    1. Daily
    2. Weekly
    3. Monthly
    4. Other (Specify) ……

28. Do you have knowledge on other payment options (Which of this options have you never used)
    1. Bank
    2. M-pesa
    3. E-wallet
    4. Other (specify)
    5. Bank and M-pesa
    6. Bank and e-wallet
    7. M-pesa and e-wallet
    8. All payment options

29. Why was the option never used
    1. Lack of awareness (know how)
    2. Transaction costs (charges)
    3. Time
    4. Ability to save
    5. Multiples stages to make payment
    6. Availability of funds- not having cash but money on M-pesa
    7. Lost interest after defaulting
    8. Other (specify)

30. To what extent are you satisfied with the NHIF contribution payment options

Very satisfied	Somewhat satisfied	Neutral (Neither satisfied nor dissatisfied)	Somewhat dissatisfied	Very dissatisfied
⬭	⬭	⬭	⬭	⬭

SECTION C: SOCIAL PRESSURES

31. Whom do you consult when making decision on payment options used when contributing towards NHIF?

1. No one
2. Spouse/partner
3. Relative (specify relationship)……
4. Other (Specify, probe for friends, and association members like chama)……
5. NHIF

32. Which payment option do they suggest? .....

1. Bank
2. M-pesa
3. E-wallet
4. Not applicable
5. Other (Specify)

SECTION D: TECHNOLOGY

33. What type of phone operating system do you have?

1. Android (specify)
2. Windows (specify)
3. Apple (Specify)
4. Don't know
5. No application
6. other (specify)
7. Both Android and Windows

34. If android or windows, what is the cost of the phone?

1. 500-3000
2. 3001-5501

3. 5502-10000
4. 10001 and above
5. Gift

35. Does the type of phone determine choice of payment option?
    1. Yes
    2. No

36. If yes how does the phone determine choice of payment option?

37. Do you have access to the internet?
    1. Yes 2.No

38. What is the source of the internet access?
    1. Self-sponsored (the respondent buys airtime or bundles)
    2. Work place
    3. Not Applicable
    4. Other (specify)

39. Do you get network coverage?
    1. Yes 2.No

SECTION E: NON- NHIF MEMBERS

40. Do you have health insurance, (not NHIF)?
    1. Yes
    2. No

41. If no, how do you meet healthcare costs?
    1. Cash payment
    2. City Council hospitals and clinics

42. What type of health insurance?
    1. AAR insurance
    2. APA
    3. Britam Health insurance
    4. CIC
    5. GA
    6. Heritage insurance
    7. Jubilee insurance
    8. Madison
    9. Real Insurance
    10. Resolution Insurance
    11. UAP
    12. PharmAccess
    13. Mamakiba
    14. Mtiba

15. Other specify ….

43. What payment options do you use when making contributions? (Specify according to the insurance for self and partner)
44. Do you know the payment options used when contributing towards NHIF?
    1. Yes
    2. No
45. If yes which options?
    1. Bank
    2. M-pesa
    3. E-wallet
    4. Other (Specify)
46. If yes, which payment option do you prefer and why?

END OF INTERVIEW

Thank you very much for your time. Your knowledge and insights will be very helpful to me. Thank you again for your time.

Appendix 2.2 Key Informant Interview Guide

Organisation ……. Position in Organisation …….

Informant Name ……. Informant Code Name ……

1. Attitudes and beliefs – do the Informal sector workers consider the advantages and disadvantages of payment options when choosing payment option?
2. Social pressures – do the Informal sector workers consider the opinions of friends and family when choosing payment option?
3. Technology- how is technological knowhow and ability to access the internet determining choice of payment option by the Informal sector workers and shaping the provision of payment options?
4. How are the payment options developed and who is involved?
5. In your views what influences uptake of payment options?

Appendix 2.3 Focus Group Discussion Guide

Position as market officials …….

1. Attitudes and beliefs – do the advantages and disadvantages of payment options determine the choice of payment option by the Informal sector workers?
2. Social pressures – does influence from friends and family determine choice of payment option by the Informal sector workers?
3. Technology- is technological knowhow and ability to access the internet a determinant in choice of payment option by the Informal sector workers?
4. In your views what influences uptake of payment options?