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MODELLING THE IMPACT OF FINANCIAL SERVICES ON FINANCIAL WELLBEING IN KAMPALA UGANDA

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Abstract: The financial market is a cornerstone in guaranteeing sustainable livelihood of the population, but the effect of financial literacy is a major impediment to inclusive finance. To this effect, this paper seeks to model the impact of financial literacy on the wellbeing of users' of formal and informal financial services in Kampala. A cross-sectional conclusive case study designed was employed using a sample of n=370 selected from people employed in the informal sector in Kampala, Uganda. Data was sourced via questionnaire survey and analysed using Structural Equation Model. Parametric assumptions were tested and redundant data were downsized using Exploratory (EFA) and Confirmatory Factor Analysis (CFA). The MCAR Little's test and the Expectation Maximisation Algorithm (EMA) were conducted for missing data analysis and the tests of hypotheses were based on the analysis of Structural Equation Model (SEM) using SPSS and SMART-PLS statistical packages. The study revealed that financial literacy is positively associated with usage of informal financial services and financial wellbeing; but negatively associated with usage of formal financial services. To this effect, this study recommends that policy makers and financial educators need to appreciate the role of informal financial services in enhancing financial wellbeing of individuals living in developing countries. This paper therefore provides contextual evidence from a developing country perspective to suggest that financial literacy has greater effect on the financial wellbeing of individuals more through the use of informal financial services than formal financial services.

Keywords: Financial Literacy; Formal and Informal Financial Services; Wellbeing

1.0 Introduction:

Financial wellbeing has been defined as the ability to control ones finances, absorb financial shocks, achieve financial goals, and possess the means to make choices that allow for the enjoyment of life (CFPB, 2017). It is widely acknowledged that access to financial services such as savings, credit, insurance, investment products, remittances and payments can contribute to individual financial wellbeing (Demirguc-kunt & Klapper, 2012). Similarly, access to formal financial services has been said to facilitate efficient and safe financial transactions that enable users to make investments and overcome poverty (Demirguc-kunt, Klapper, & Singer, 2017).

Financial literacy training is thought to be an important intervention in promoting individual financial wellbeing through usage of formal financial services (Refera, Dhaliwal & Kaur, 2016; Lusardi & Mitchell, 2011; Shim, Xiao, Barber & Lyons, 2009). Several governments have adopted financial education and literacy strategies aimed at tackling financial inclusion (Atkiinson & Messy, 2013). It is envisaged that increased financial literacy can help increase awareness and knowledge on financial services, especially among the poor (World Bank, 2009; as cited by (Candiya Bongomin, Munene, Ntayi, & Malinga, 2017). A study conducted in Uganda, confirmed that provision of formal financial services together with financial literacy helped especially the poor to make good financial decisions (Bongomin, et al, 2017). However, in spite of significant efforts at promoting financial literacy, the usage of formal financial services is still so low in many developing countries (Demirgüç-Kunt, Beck, & Honohan, 2008).

In Uganda, 56% of Ugandan adults were reported to be using informal financial services in contrast to the situation in developed countries where over 90% of the population have access to formal financial services (Frawley, 2018). The low usage of formal financial services in Uganda has been attributed to supply and demand side factors: On the supply side perspective, the challenge lies with the high costs and perceived operational risks that formal financial institutions face in delivering financial services to especially rural areas; while on the demand side perspective, it has been argued that low income earners are unlikely to see value in using formal financial institutions (Finscope, 2018). The survey revealed that 22% of Ugandan adults aged 16 years and above exclusively used formal financial services, 20% used informal financial services, and interestingly that, 36% used both formal and informal financial services while 22% were totally financially excluded. The survey found that tendency for individuals to use both formal and informal financial services was highest among those in urban areas (41%). The duality in the usage of financial services in developing countries like Uganda, especially in urban areas with higher access suggests that financial services usage cannot exclusively be merely a function of demand and supply.

Significant research attention has not been devoted to the dualistic financial systems that prevail in countries like Uganda, in which informal financial services co-exist alongside formal services. A plethora of studies have investigated the effects of financial literacy on financial access and inclusion (Grohmann, Klühs, & Menkhoff, 2018; Wachira & Kihiu, 2012); comparative usage of formal versus informal financial services (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2010); as well as the relationships between usage of formal and informal financial services (Birkenmaier & Fu, 2018). However, most of these studies largely conducted in countries with developed formal financial systems, have neither adequately addressed the effects of financial literacy on individual's usage of formal and informal financial services; nor have they examined the effects of informal and formal financial services usage on the financial wellbeing of individuals. The current study seeks to address this gap and thereby inform financial inclusion and education initiatives in developing countries with dualistic financial systems. Studies conducted especially in countries with more developed formal financial systems have found inconclusive evidence that financial literacy leads to improved financial decision-making (Cole, Sampson, & Zia, 2009; Hilgert, Hogarth, & Beverly, 2003; Mandell & Klein, 2009). However, many national financial inclusion strategies are focused on increasing their citizens access to formal financial products and services through promotion of financial capabilities and consumer protection (Douglas & Ortega., 2012). The current study finds justification for an empirical inquiry on the effect of formal and informal financial services on the financial wellbeing of individuals.

Asiamah (2017) found that financial literacy had significant effects on the use of formal and informal financial services among Ghanaian households. Earlier studies (Besley, 1995; Besley & Levenson, 1996; Handa & Kirton, 1999; Kedir & Ibrahim, 2011) cited by Asiamah (2017), discussed the phenomenon of financial dualism in many African systems. Nonetheless, few studies have specifically examined the effects of formal and informal services on individual levels of financial wellbeing. This study posits that consumers of financial services in developing countries make rational decision which is consistent with the Rational Choice Theory (RTC) through their voluntary usage of formal and informal financial services. We therefore test this presumption by examining the effect of financial literacy on individual uptake and usage of formal vs. informal financial services and evaluate the resulting contribution to their financial wellbeing.

2.0 Literature, hypothesis development

2.1 Financial literacy and financial wellbeing

OEDC (2016) defines financial literacy as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being." This is consistent with (Cohen & Nelson, 2011) who defined financial literacy as the knowledge, skills and attitudes required for a consumer to make prudent financial decisions that can be of contractual benefit to them. On the other hand, financial wellbeing encompasses the ability to control ones finances, absorb financial shocks, achieve financial goals, and possess the means to make choices that allow for the enjoyment of life (CFPB, 2017). Financial literacy and education are considered to improve people's wellbeing by enabling them to engage in desirable financial behaviours (Lusardi and Mitchell, 2014). There is a growing consensus that financial well-being is the ultimate goal of financial literacy/capability (CFPB, 2015). It has been argued that financial capability attained through financial literacy and education does improve the present and long-term financial well-being of individuals. The vision of the United States financial literacy strategies 2011 and 2016 is "Sustained

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financial well-being for all individuals and families in the United States".

Several studies have established relationships between financial literacy and financial wellbeing (Durodola, Fusch, & Tippins, 2017; Kamakia, Mwangi, & Mwangi, 2017; Smits & Guenther, 2017; Taft, Hosein, & Mehrizi, 2013) while others have established links between financial literacy and personal financial behaviours. The national financial literacy strategy of Uganda prioritizes the promotion of financial literacy as a means to improve individuals' capability to engage in positive financial behaviours and thereby attain financial wellbeing (BOU, 2013). However, literature has not paid much attention to the direct impact that financial literacy can have of wellbeing (Braun et al., 2016; Sabri et al, 2012) and mechanisms through which financial literacy influences financial wellbeing remain unclear.

A study by Xiao (2016) found that the relationship between financial education and financial satisfaction (a subjective measure of financial wellbeing), was mediated by subjective financial literacy, financial behaviours and financial capabilities. Falahati et al (2012) found that financial literacy and financial behaviours predicted financial satisfaction. A qualitative case study on immigrants in Lloydminster, Canada concluded that financial literacy education to immigrants would equip them with tools to make informed financial decisions and positively impact their financial wellbeing (Durodola, et al, 2017). Most of these studies have been conducted in developed countries; however, not much attention has been given to examining the effects of financial literacy on financial wellbeing especially among people living in countries with undeveloped financial systems such as Uganda. This study seeks to fill this gap in literature and thereby hypothesis H1 is generated:

H1 - *Financial literacy is positively associated with the financial wellbeing of financial*
Service users in Uganda

2.2 Financial Literacy and Usage of Financial Services

Improving access to and usage of a broad range of financial services for savings, loans, investments, money transfers and insurance is a relevant goal for all economies regardless of the level of their development (Demirgüç-Kunt et al., 2008). As financial services become more diversified and sophisticated there is a need for them to be matched with intellectual capacity of the masses to enable them fully appreciate the services and be able to use them for their benefit (Karlan & Morduch, 2010). A lack of a comprehensive understanding of these financial services could have a negative effect on their usage and or even on the wellbeing of their users. Financial literacy is therefore considered as a tool to increase uptake and usage of a variety of financial services especially if they are readily available (Xu & Zia, 2012). Other studies found positive links between financial literacy and behaviours of rural micro-entrepreneurs (Niwaha, Schmidt, & Tumuramye, 2016). The Global Findex as well as other country-level surveys like FinScope, FinAccess and the Financial Inclusion Tracker Survey (FITS) have revealed interesting consumption patterns of financial services offered by both regulated (formal) and unregulated (informal) providers justifying the need for studies on the effects of financial literacy on their usage.

Individual components of financial literacy such as knowledge, skills, behaviours and attitudes have been found to have an effect on financial inclusion (Candiya Bongomin et al., 2017), however some studies such as (Cole et al., 2009) found that financial literacy had no effect on formal financial service utilization but had some modest impact on illiterate households. The latter study found that financial incentives had a significantly stronger effect on individual decision to open up bank accounts and were therefore a cheaper approach to promoting opening up of formal accounts than financial literacy training. These findings are consistent with (Fauziyah & Aty Ruhayati, 2016) who found that financial literacy and knowledge wasn't sufficient to influence or improve people's financial behaviour. Yet however, studies like (De Bassa Scheresberg, 2013) found that people with higher levels of financial literacy were less likely to use financial products for credit associated with higher costs, and more likely to utilize services for retirement planning and emergency savings.

In contrast to the fore cited studies, Wachira & Kihiu (2012) found a positive but not significant link between financial literacy and access to financial services among the formal, informal and semi-formal financial access strands in Kenya. Similarly, a study by Shibia & Kieyah (2016), on the effect of financial literacy on individual choices across the financial access strand in Kenya, found that financial literacy scores increased with increasing level of formality suggesting that the more financially literate people were the more likely they would tend towards usage of formal financial services.

These findings are inconclusive given that similar studies conducted in countries with developed financial systems such as the USA, have found negative association between financial literacy and informal/alternative financial services usage (Lusardi & Scheresberg, 2013). They provide evidence to suggest that users of alternative financial services are more likely to lack knowledge and numeracy of financial concepts; In agreement with these findings, Gathergood & Weber (2015) found that individuals with low financial literacy levels were more likely to use alternative mortgage products than those who had higher levels of financial literacy. Fernandes et al (2013) in a meta-analysis covering 188 prior studies found that financial literacy interventions only explained a 0.1% variance in financial behaviours. These somewhat inconsistent findings on the effects of financial literacy on financial behaviours and the prevalent trends in usage of formal and informal financial services evidenced in surveys often used from cross country comparisons such as Finscope 2018 survey, justify an empirical investigation to establish links between financial literacy and usage of formal as well as informal financial services. The current study seeks to do so and thus Hypothesis H2a and H2b below are derived:

H2a – *Financial Literacy positively influences the usage of formal financial services in Uganda*

H2b – *Financial Literacy positively influences the usage of informal financial services in Uganda*

2.3 Usage of Financial Services and Financial Wellbeing

It has been argued that people who have access to appropriate and affordable financial services and products enjoy higher levels of financial wellbeing than those who are financially excluded (Muir et al., 2017). Evidence from the CFPB, (2015) suggests strong positive association between savings and financial wellbeing, as well as strong negative relationships between certain negative credit experiences and financial wellbeing. Studies have examined associations between financial behaviours and financial wellbeing (Gutter & Copur, 2011; Aboagye, & Jung, 2018) and found that certain specific behaviours such as savings, budgeting, credit card behaviours, and compulsive buying were significantly related to financial wellbeing. Evidence from field experiments by Dupas & Robinson (2013) and later supported by Newman (2013) suggests that people with access to savings accounts or simple informal savings technologies are more likely to increase consumption, productivity and income, and investment in preventive health, and to have reduced vulnerability to illness and other unexpected events. A study on borrowing and microfinance found borrowers from formal regulated financial institutions suffered less financial stress than those who borrowed from informal and semi-formal institutions (Smits & Gunther, 2017). However a study conducted in India by Khan & Bhandari (2018) found that access to formal financial services had little impact on economic wellbeing as many individuals generally only used bank accounts for accessing government payments, wages and old age pensions.

Overall the Global Findex data shows sharp disparities in the use of financial services between high-income and developing countries, confirming the findings of previous studies that show lower use of formal financial services in developing countries (Allen, Demirguc-Kunt, Klapper, & Martinez Peria, 2016) pointing to the contrasting financial wellness situation of people living in developing countries as opposed to those who live in developed countries. It is against such studies that many national development strategies seek to improve the financial wellbeing of their citizens through increased access to and use of financial services.

Storchi & Johnson (2016) have asserted that the notion that use of financial services is associated with improved wellbeing is primarily built around rational choice models which presume that financially literate and numerate individuals possess the capabilities required to engage in positive financial behaviours that can be defined and measured, which in certain contextual situations is not always the case. The current study therefore seeks to test their presumption by examining the effects of formal and informal financial services usage on individual financial wellbeing in a developing country context. A great deal of financial inclusion literature addressed to the use of formal and informal financial services, mainly focuses on the comparative advantages and disadvantages, that these financial access strands present to consumers in terms of security, proximity, and affordability (Deshpande, 2006) leaving a gap on their effects on the financial wellbeing of users. The current study therefore seeks to bridge this gap and thus Hypotheses H3a is derived: -

H3$_a$ – *Usage of formal financial services positively influences financial wellbeing of Financial services users in Uganda*

Further, studies have demonstrated that people, especially those

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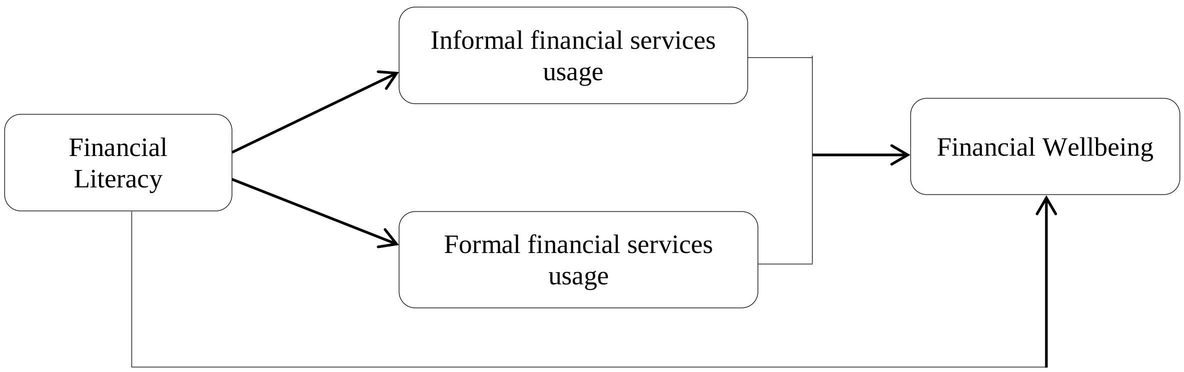
with small and unpredictable incomes may find it necessary to make use informal financial services to manage their money (Collins, Morduch et al. 2009). It has also been argued that individual's do find certain financial services valuable in attaining their financial wellbeing objectives (Storchi & Johnson, 2016). This current study therefore tests the presumption made by the rational choice theory that people living in a developing country context, make rational decision in opting to use informal financial services in pursuit of financial wellbeing. We therefore generate hypotheses H3b and H3c below:

H3b – *Usage of Informal financial services positively influences financial wellbeing of Financial services users in Uganda*

H3c – *The combined usage of formal and informal financial services positively Influences financial wellbeing of financial services users in Uganda*

Figure 1 – Conceptual Framework



Source: Developed by authors based on various literature cited in-text

2. Methodology:

This study adopted a cross-sectional conclusive case study design. The adopted design was considered appropriate because of its suitability on testing models with hypothesized relationships. Saunders et al. (2007) has argued that such studies are replicable and provide results that are objective. The study respondents consisted of people employed in the informal sector in Kampala District – the capital city of Uganda. This study site was preferred because it has the highest population in Uganda (Uganda Bureau of Statistics, 2016); and has the highest concentration of formal and informal financial services providers and users (Frawley, 2018). In the absence of a comprehensive list of all informal sector operators in Kampala, the survey considered a maximum size of 384 respondents consistent with Krejcie and Morgan (1970), who demonstrated that sample sizes increase diminishingly or remain constant at 380 or so cases. Survey respondents were proportionately selected to ensure appropriate representation from all the five Divisions of Kampala District i.e. Kawempe, Nakawa, Makindye, Rubaga and Central Division. The survey instrument was administered by a team of five well trained research assistants to a sample of economically active individuals working in various enterprise clusters within the informal sector. Out of the targeted 384 respondents, 370 questionnaires were returned and used for analysis representing a 96.3% response rate.

Operational definitions of variables were drawn from extant literature and the measures used in the study were adopted from instruments used from previous studies: The financial literacy measurement scale adapted to the Ugandan context from scales developed and used by Lusardi and Mitchell (2008, 2011b, 2011c) as cited by (Lusardi, 2019) consisted items on: Knowledge, Skills and attitudes; Usage of Financial services scales adapted from (Demirguc-kunt et al., 2014) which are used in the Global Findex surveys and adjusted to cater for items on formal and informal financial services related to savings, loans, insurance, investment and money transfer; and the financial wellbeing scale adapted from (Prawitz, Et al , 2006). Data for the analysis was gotten through structured questionnaires from a sample of 370 respondents, and analysed using SMART-PLS and SPSS statistical packages to test for reliability and validity of research constructs and instruments as shown on table 3 below: -

Table 3 - Reliability and Validity

Financial Literacy	*Composite Reliability*	*Average Variance Extracted (AVE)*
Attitudes	.849	.652
Knowledge	.851	.657
Skills	.825	.611
Usage of Financial Services	*Composite Reliability*	*Average Variance Extracted (AVE)*
Formal Financial Services	.793	.659
Informal Financial Services	.753	.603
Financial Wellbeing	*Composite Reliability*	*Average Variance Extracted (AVE)*
Financial Satisfaction	.868	.766
Financial Status	.808	.678

Missing values were treated using the MCAR Little's Test and the Expectation Maximisation Algorithm. Parametric assumptions including normality, homogeneity of variance and multi-collinearity were all observed and consistent with Field (2005). The test for assumption or normality was done using the Shapiro-Wilk (SW) and Kolmogorov-Smirnov (KS) tests; as well as the graphical approach using P-P plots. The analysis was done using both descriptive and inferential statistics including correlations and structural equation model.

3. Results

A total of 188 respondents (50.8%) were male, while 182 respondents (49.2%) were female. The majority of respondents fall within the 31 to 40 year age bracket representing 38.4% of the entire sample. 201 respondents reported to have attained a Bachelor's Degree representing 54.3% of the entire sample; while 213 i.e. 57.6 % of the sample were reported to have acquired formal financial literacy education through multiple sources including personal experiences (43.5%), social media (25.7%) and others. Table 4 presents the results of the correlation analysis.

Table 4 – Relationships between Study Variables

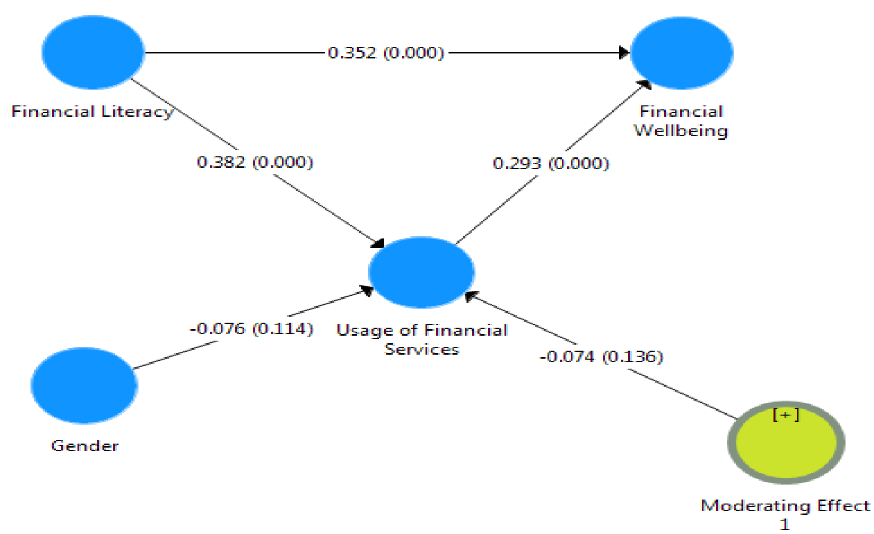
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Knowledge-**1**	1.000							
Skills-**2**	.372**	1.000						
Attitude-**3**	.221**	.374**	1.000					
Financial Literacy-4	.323**	.398**	.446**	1.000				
Formal Fin Services-**5**	-.197**	-.261**	-.300**	-.245**	1.000			
Informal Fin Services-6	.196**	.395**	.364**	.302**	-.256**	1.000		
Usage of Fin Services-7	.302**	.483**	.393**	.388**	-.341**	.399**	1.000	
Financial Wellbeing-8	.291**	.435**	.406**	.465**	-.262**	.330**	.429**	1.000

**. Correlation is significant at the 0.01 level (2-tailed).

The results presented in Table 4 show that there is a significant positive relationship between Financial literacy and financial wellbeing (r = .465**, $p<.05$). This finding suggests that individuals with a higher level of financial literacy are more likely to have a higher level of financial wellbeing than those that have a lower level of financial literacy. Likewise, there is a significant positive relationship between financial literacy and overall usage of financial services (r = .388**, $p<.05$) implying that people with higher levels of financial literacy people in Uganda, have a higher level of usage of financial services.

Further, the study found that overall usage of financial services was positively associated with financial wellbeing (r = .429**, p<.05), meaning that the more people with higher usage of financial services have a higher level of financial wellbeing. However, more specifically, the study found the financial literacy was negatively related to usage of formal financial services (r = -.245**, p<.05); but positively associated with usage of informal financial services (r = .302**, p<.05); and further that, usage of formal financial services, was negatively associated with financial wellbeing (r = -.262**, p<.05); while usage of informal financial services was positively associated with financial wellbeing (r=.429**, p<.05). These findings suggest that overall, people who use financial services in Uganda have a higher level of financial wellbeing than those who do not use them; but those using informal financial services have higher level for financial wellbeing than those who use formal financial services. Furthermore, structural equation model was developed to test the extent to which the hypothesised model fitted the data (Ong & Fadilah Puteh, 2017). The structural models for the hypothesized relationship are presented in Figure 2 and 3 along with the Tables 5 and 6 respectively showing the path coefficients.

Figure 2: Structural Model for the Global Variables and the Moderating Effects



The statistics of the structural model in Figure 2 are also presented in the Table 5 which shows the Path coefficients for all the relationships hypothesized in the study.

Table 5 - Path Coefficients for the Structural Model for the Global Variables and the Moderating Effects

Path Coefficients for measurement model	Beta	Mean	STDEV	T Statistics	P Values
Financial Literacy ➡ Financial Wellbeing	.352	.350	.046	7.587	.000
Financial Literacy ➡ Usage of Fin Services	.382	.385	.050	7.709	.000
Gender ➡ Usage of Financial Services	-.076	-.073	.048	1.584	.114
Moderating Effect 1 ➡ Usage of Fin Services	-.074	-.073	.050	1.492	.136
Usage of Financial Services ➡ Fin Wellbeing	.293	.295	.054	5.449	.000

As indicated in Table 5 the relationship between the Financial literacy and the financial wellbeing is positive (Beta = .352, sig. <.05). This finding supports Hypothesis **H1** that financial literacy has a positive effect on financial wellbeing of people working in the informal secor in Kampala. Nonetheless, regarding the moderating effect of Gender in the relationship between financial literacy and

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usage of financial services, it is noted from the path; Gender → Usage of Financial Services (Beta = .114, sig. >.05) and Moderating Effect 1 → Usage of Financial Services (Beta = .136, sig. >.05), are both non-significant. Therefore, the results show that Gender does not moderate the relationship between Financial Literacy and the Usage of Financial Services. The other hypothesized relationships are tested and results presented in Figure 3 and corresponding Table 6: -

Figure 3: Structural Model for Financial Literacy, Financial Wellbeing and the Usage of Financial Services

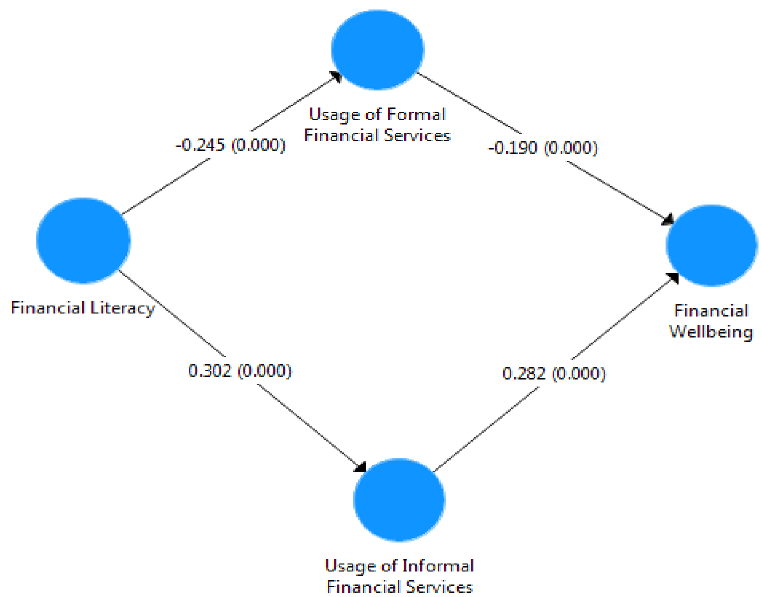

Table 6 – Path Coefficients for Financial Literacy, Financial Wellbeing and the Dimensions of Usage of Financial Services

	Beta	Mean	STDEV	T Statistics	P Values
Fin Literacy → Usage of Formal Fin Services	-.245	-.244	.048	5.097	.000
Fin Literacy → Usage of Informal Fin Services	.302	.306	.052	5.854	.000
Usage of Formal Fin Services → Fin Wellbeing	-.190	-.189	.054	3.515	.000
Usage of Informal Fin Services → Fin Wellbeing	.282	.283	.056	5.055	.000

The Structural Model in Figure 3 (and corresponding Table 6) indicate that there is a significant negative relationship between financial literacy and usage of formal financial services (Beta = -.245, sig. <.05) leading to rejection of Hypothesis 2a that financial literacy positively influences the usage of formal financial services among people working in the informal sector in Kampala. However, the model reveals a significant positive relationship between financial literacy and usage of informal financial services (Beta = .302, sig. <.05) in support of Hypothesis 2b that Financial Literacy positively influences the usage of informal financial services in Uganda.

Similarly, the model shows that there is a significant but weak negative relationship between usage of formal financial services and financial wellbeing (Beta = -.190, sig. <.05) leading to a rejection of Hypothesis H3a that usage of formal financial services positively influences financial wellbeing among users of financial services in Uganda; We however find a significant positive relationship between usage of informal financial services and financial wellbeing (Beta = .282, sig.

<.05) in support of Hypothesis H3b that usage of Informal financial services positively influences financial wellbeing of the people working in the informal sector in Kampala.

Overall the correlations analysis on Table 4 shows that there is a significant and strong positive relationship between usage of financial services and financial wellbeing (r = .429**, p<.05) in support of Hypothesis H3c that the combined usage of formal and informal financial services positively influences financial wellbeing among informal sector operators in Kampala. These findings are consistent with evidence from Collins et al., (2009), that demonstrated that many people living in low income countries used formal and informal financial mechanisms in their day-to-day management of the complex set of transactions necessary for them to smooth their consumption, take advantage of investment opportunities and all together improve their financial wellbeing.

4. Discussion of findings and conclusion

Studies have affirmed that utilization of financial services contributes to financial wellbeing at individual level (Rutherford & Arora, 2009) and economic growth at the macroeconomic level (Levine, 2008; Beck, Demirgü-Kunt, & Levine, 2010). A key contribution made by this study lies in drawing a clear distinction between usage of formal and informal financial services for savings, loans, investments, transfers and insurance. This enabled the study to examine the effects of each of the two strands (formal and informal) on individual's financial wellbeing; as well as allowing for testing of the effects of financial literacy on the usage of both formal and informal financial services. Also, the role of gender on the relationship between financial literacy and usage of formal and informal financial services was investigated. The results revealed two important points. First, that financial literacy positively influences financial wellbeing. Second, that financial literacy promotes overall usage of financial services but is particularly negatively associated with usage of formal financial services as opposed to informal financial services. This finding reveals that people with high self-reported levels of financial literacy in countries with underdeveloped financial markets may use their knowledge and skills to evaluate formal and informal financial services and opt to use those that provide them with higher financial wellbeing. The study thus finds support for Becker's (1976) Rational Choice Theory (RCT) which posits that individual economic agents will most certainly make decisions that return the maximum benefits to them. Therefore we conclude that people working in the informal sector in Kampala, Uganda exercise rationality when they utilize informal financial services to save, borrow, insure, transfer money or invest, because the services provide them with positive financial wellbeing returns.

The findings reveal that informal sector operators working in Kampala with reasonable access to formal financial service providers such as: commercial banks, microfinance Deposit Taking Institutions (MDIs); microfinance institutions (MFIs) and mobile money digital platforms; improve their financial wellbeing through the utilization of informal financial services offered by: Savings groups like Village Loan and Savings Associations (VSLAs), Rotational Savings and Credit Associations (ROSCAs); Unlicensed Money Lenders, as well as non-institutional sources such as friends, peers and relatives. These informal services nonetheless tend to overlap, and often lack a clear distinction between for instance savings and insurance (Aryeetey et al., 1997).

The study finds high levels of financial literacy also have improved levels of financial wellbeing especially when they utilize financial services. In other words, they are able to manage their day-to-day financial needs, take care of their future financial security, and exercise options for the enjoyment of life especially through the utilization of informal financial services. However notwithstanding this important finding, most financial inclusion literature considers the utilization of informal and unregulated services to be costly, unsafe and unsustainable. Savings groups for instance have been criticized for operating in short one-year cycles, and also for their inability to provide extensive financial intermediation to a wider population (Bhattamishra & Barrett, 2010), increase availability of savings for financial intermediation and contribute to economic growth (Ghosh & Vinod, 2017). The financial inclusion models currently pursued tend to emphasize promotion of formal financial service usage through financial education. The study findings suggest that financial inclusion models which exclusively promote usage of formal financial services may be inappropriate in countries with underdeveloped financial systems. We recommend dualistic financial inclusion models that recognise the significant contribution of informal financial service utilization towards enhanced financial wellbeing of the vast majority of individuals who operate in the informal sector in developing country contexts.

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