THE PHYSICAL AND ELECTRONIC PAYMENT INTERFACE AND ITS INFLUENCE ON CONSUMER PAYMENT CHOICES AND INFORMAL PRACTICES: A CASE OF THE NATIONAL WATER AND SEWERAGE CORPORATION (NWSC) UGANDA.

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IMTFI RESEARCH CONFERENCE, DECEMBER 2014
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Presentation outline

- Introduction
- Objectives
- Data and methods
- Preliminary results
- Limitations
- Concluding remarks
- Questions
INTRODUCTION
Number of Bank branches and ATMs

Source: BOU Financial Inclusion Report 2014
Distribution of banks and ATMS

*Source: BOU Financial Inclusion Report 2014*
There is growth in money technology and innovations in Uganda

Number of registered Mobile money users in Uganda

Sources: Daily monitor December 11, 2014; Fits, 2013
Distribution of MM Agents in Uganda

Source: Brand Fusion Ltd & Gates Foundation

http://www.geo-ref.net/en/uga.htm
About NWSC

- Established in 1972
- Offers water and sewerage services
- Serves over 3m people
  - urban areas in 38 districts

NWSC operation districts (Source: http://www.nwsc.co.ug/)
NWSC payment innovations

- Mobile money anytime anywhere
- Direct debit (internet banking and standing orders)
- ATM
- E-payment done at bank (Cash deposits at the bank)
- On spot billing

Source: http://www.nwsc.co.ug/)
Conceptual framework

**Cash**
- Bank accounts
- Debit/credit cards

**Bank**
- Bank accounts
- Debit/credit cards

**Agents/payment centers**
- Mobile money
- Payway kiosks
- Cash payment centers
- Cash deposit at bank

**Goods and services (water)**

**Internet banking**
- ATM payments
- Bank transfers
Research problem

NWSC clients have a range of payment methods that are either cash based or electronic. They continue to use all methods but no study has been done to fully analyze what drives consumer choice and the impact the new payment methods have on informal/fraudulent practices.
Objectives and questions

• Examine the factors that drive people’s payment choices in NWSC
  – What is the role of demographics and social economic characteristics?
  – Why choose to pay bills using mobile money and other electronic payment method?
  – How satisfied are the users of mobile money or electronic payment methods?

• Examine the impact that the interface between physical and electronic payments has on informal practices in NWSC.
  – What fraudulent or informal practices experienced in cash payment systems?
  – Has the e-payment system changed the fraudulent/informal practice dynamics?
METHODOLOGY
Survey area

– Four districts in Uganda
  • Kampala (capital city)
  • Mukono (urban)
  • Mpigi (semi-urban)
  • Luweero (rural)
User interviews

- Randomly selected from clientele lists
- 200 have so far participated from three districts.
- 170 have been analyzed
- The exercise is still ongoing
Expert interviews

- NWSC workers
- Bank managers
- Scholars
Document reviews

- NWSC reports and publications especially from head office
- News papers
- Other scholar output
PRELIMINARY RESULTS

Descriptive analysis
1. Results from a survey of users

### a. The respondent knows that s/he can pay for water bills using the payment

<table>
<thead>
<tr>
<th>Payment Method</th>
<th>Number</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM</td>
<td>152</td>
<td>89%</td>
<td>170</td>
</tr>
<tr>
<td>BT</td>
<td>63</td>
<td>37.06%</td>
<td>170</td>
</tr>
<tr>
<td>CD</td>
<td>144</td>
<td>85%</td>
<td>170</td>
</tr>
<tr>
<td>Cash</td>
<td>99</td>
<td>58%</td>
<td>170</td>
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</table>

### b. The respondent used a payment method in the previous six months

<table>
<thead>
<tr>
<th>Payment Method</th>
<th>Number</th>
<th>Percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM</td>
<td>68</td>
<td>40%</td>
<td>170</td>
</tr>
<tr>
<td>BT</td>
<td>13</td>
<td>8%</td>
<td>170</td>
</tr>
<tr>
<td>CD</td>
<td>134</td>
<td>79%</td>
<td>170</td>
</tr>
<tr>
<td>Cash</td>
<td>39</td>
<td>23%</td>
<td>170</td>
</tr>
</tbody>
</table>

### c. One attribute/reason why a respondent used a payment method

<table>
<thead>
<tr>
<th>Method</th>
<th>Cheap</th>
<th>Convenient</th>
<th>Easy</th>
<th>Fast</th>
<th>Did not</th>
<th>Near</th>
<th>Safe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM</td>
<td>0 (0%)</td>
<td>8 (4.71%)</td>
<td>15 (9%)</td>
<td>41 (24%)</td>
<td>102 (60%)</td>
<td>1 (0.5%)</td>
<td>3 (2%)</td>
<td>170</td>
</tr>
<tr>
<td>BT</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>6 (4%)</td>
<td>3 (2%)</td>
<td>157 (92%)</td>
<td>0 (0%)</td>
<td>4 (2%)</td>
<td>170</td>
</tr>
<tr>
<td>CD</td>
<td>8 (5%)</td>
<td>7 (4%)</td>
<td>18 (11%)</td>
<td>3 (2%)</td>
<td>34 (20%)</td>
<td>21 (12%)</td>
<td>79 (46%)</td>
<td>170</td>
</tr>
<tr>
<td>Cash</td>
<td>0 (0%)</td>
<td>18 (11%)</td>
<td>6 (4%)</td>
<td>10 (6%)</td>
<td>131 (77%)</td>
<td>0 (0%)</td>
<td>5 (3%)</td>
<td>170</td>
</tr>
</tbody>
</table>

Source: Computed from survey data.
2. From expert interviews:

- Yes e-payment methods can reduce corruption between users and agents of providers.
- The users are now exposed to ‘modern’ malpractices like hacking.
- Advanced innovations in payment are good but not good enough for our people.
3. Summary from document review

- In 2013 mm payments went high
- NWSC stopped receiving cash at their offices
- Water bills can now be paid anytime anywhere thanks to mm and ATM
LIMITATIONS

• The intention was to study drivers of payment systems in Uganda yet the product (water) is urban and gender biased.

• Some payment methods do not have enough representation in the data collected and we are likely to drop them from further analysis.

• Informal practices are not documented so analysis is rather hard than impossible.
CONCLUSION

• It’s too early to draw conclusions
  
  But,

• There are signs that research questions will be answered at the end of the analysis.

• Your suggestions, concerns and questions will enrich this work
Thanks
## Still to do

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>2014</th>
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<tr>
<td></td>
<td>12</td>
<td>1</td>
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<tr>
<td>Reconnaissance meetings</td>
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<td>3</td>
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<tr>
<td><strong>Data Collection</strong></td>
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<td>5</td>
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<td>Documents Reviews</td>
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<td>Key Informant interviews</td>
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<tr>
<td>Administering questionnaires</td>
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<tr>
<td>Submission of mid-term report</td>
<td></td>
<td></td>
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<tr>
<td>Data entry and analysis (Logit model)</td>
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<tr>
<td>Report writing</td>
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<td>Dissemination workshop</td>
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<td>Submission of final report</td>
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