

# **Guide to Digital Money in the UK**

**1<sup>st</sup> Edition**

**13 November 2012**

This report examines two aspects of E money. The UK mobile money infrastructure its channels and the different kinds of mobile money being created and examines the kinds of E currencies being used.

The report highlights some of the areas of potential where Fintech entrepreneurs can examine potential opportunities

The purpose of this report is to map out the mobile FS (Financial Services) delivery space, what segments are there, who is already in them and what are they doing. It also looks at E Currencies which generally exist in a grey space in internet. They are operationally proven, can be exchanged are global and widely accepted within certain internet segments.

We have mapped out some of the areas of commercial opportunity for Fintech Entrepreneurs. The delivery system of the mobile allows Financial Services products to be put before every human. There is great disquiet about the structure of existing currency systems, hardly a day goes past without another trading scandal appearing or a central bank being accused of debasement of a currency through printing money, derivative trading volumes dwarf underlying markets. Could new E Currencies emerge as a response.

It's essential that Innovation is Market-led and not Ideological or Technology-led, a syndrome that is all too common. Now more than ever we need Entrepreneurs to build viable investable companies that transform and create new markets, and that starts with a good understanding of the space you're targeting. We hope that this report serves that purpose.

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**This report will always be in Beta**

This report is a work in progress and it is our intention to publish it every 6 months. If you know additional sources of data please inform us and they will be incorporated into the next edition.

**An Apology in advance**

As many attendees at the meetup are involved intimately in Fintech transactions you may have much more additional information on the detail of specific transactions. A full and complete and unreserved apology is offered in advance for any misreporting, please contact the author to correct any inaccuracies.

**Collaboration**

A call for Collaboration on data sources and ways to enhance the value of this report to members.

**Finally**

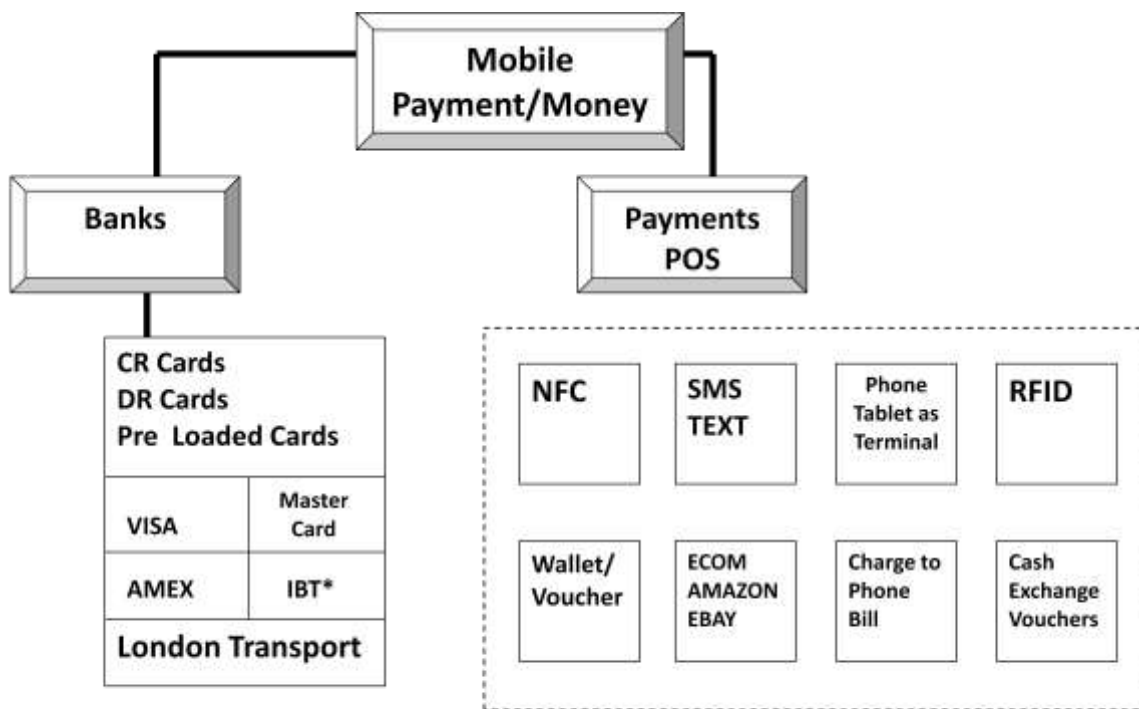
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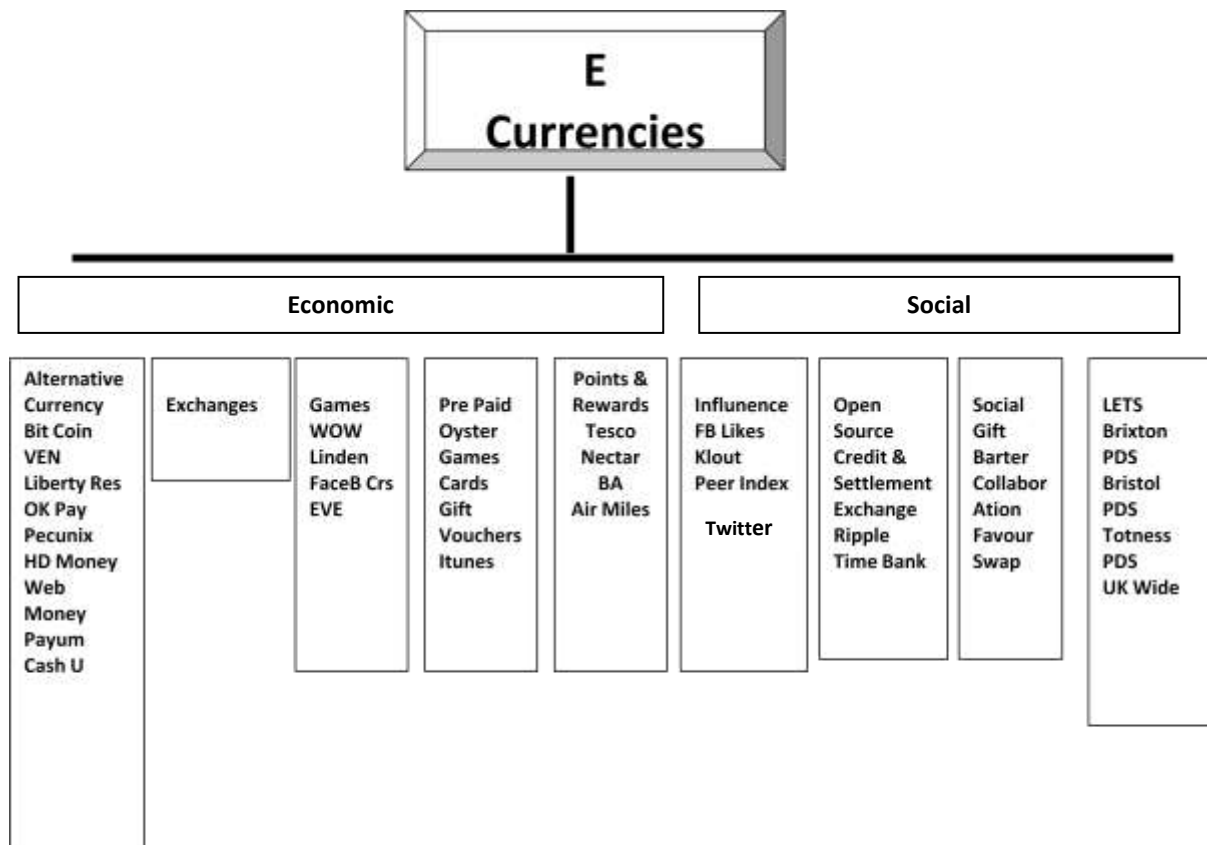
## Mobile Payments



\*IBT Interbank transfer  
SWIFT/ BACS /VOCALink etc

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## E Currencies



## 1.0 Preface and Executive Summary

### 1.1 Preface

Money is undergoing a fundamental change. It no longer consists of coins and notes and amounts stated on a bank statement. Two forces are changing the way humans interact with their wealth, mobile phones as the delivery system and E Currencies as the wealth store. Electronic payments are estimated volume is 306bn in 2011 up from 283bn in 2010. (World payment report<sup>1</sup>)

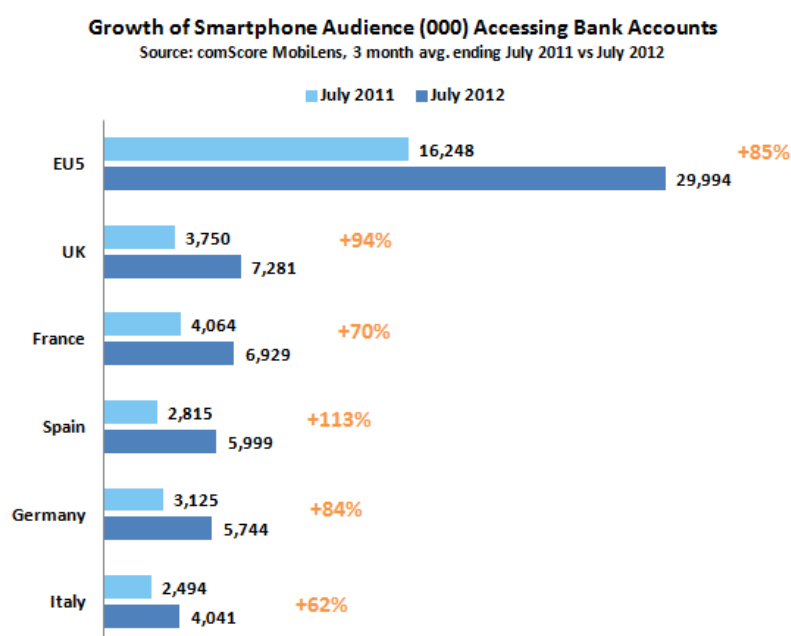
The developed world is behind the developing world its use of mobile phone technologies to pay for items and peer to peer money transfer. According to GSMA<sup>2</sup> in the developing world there are 140 live deployments and 104 planned, mobile phones are the key weapon in extending financial inclusion to the worlds unbanked<sup>3</sup>. The majority of mobile banking systems in the developed world are SMS text based their comparator Banks and mobile network operators in the developed world struggle to get similar levels of market acceptance and the systems offered are not as user friendly or as robust.

Money is changing, use of notes as a means of exchange is weakening, the growth of credit cards, debit cards are eroding the need to carry cash. Alternative currencies are emerging from the web such as Bitcoin, Ven and Linden dollars. Whole “E economic systems” are being created as we speak. points, rewards, vouchers are becoming currencies in their own right; exchanges are being set up with minimal transfer costs to send value worldwide. Social groups are setting up LETS, Local exchange trading systems, and Fiat local currencies.

Mobile Phone technology and E currencies are converging into one force they will rewrite and fundamentally change the world’s currency and money landscapes and in the long term could possibly challenge national currencies.

### 1.2 Executive Summary

#### 1.2.1 Size



In the EU5 (France, Germany, Italy, Spain and the UK) 30 million people accessed a bank accounts via their Smartphone in July 2012, an increase of 85 percent compared to a year ago.<sup>4</sup>

The UK had the largest user base with 7.3 million Smartphone owners accessing bank accounts in the month, nearly twice as many as just one year ago. Spain showed an even stronger increase with 113 percent more users making use of service compared to last year. The UK is following its trend as the most internet enabled economy in the G20 in mobile banking use.

<sup>1</sup> World Payment report 2012, Capgemini, RBS, EFMA, <http://www.uk.capgemini.com/insights-and-resources/by-publication/the-8th-annual-world-payments-report-2012/>

<sup>2</sup> <http://www.mobilemoneylive.org/money-tracker>

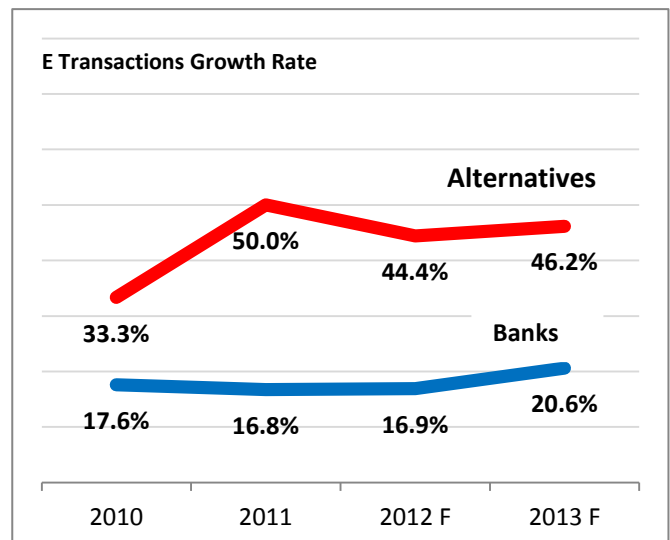
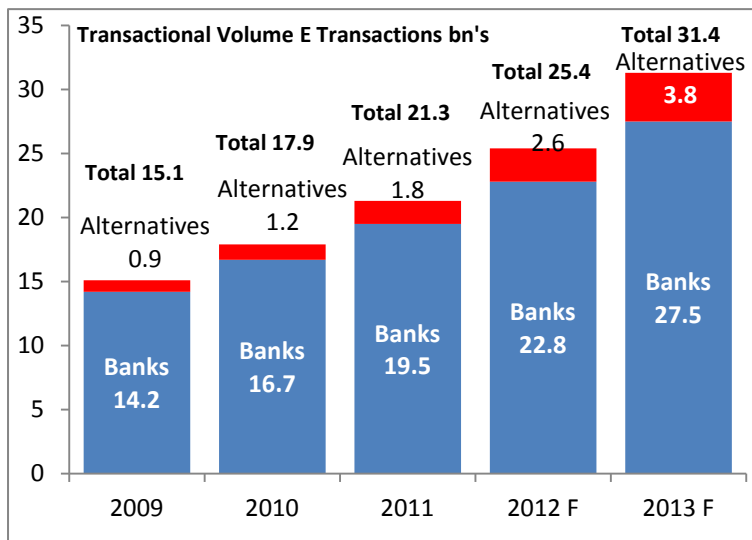
<sup>3</sup> <http://www.gsma.com/mobilefordevelopment/programmes/mobile-money-for-the-unbanked/>

<sup>4</sup> <http://www.comscoredatamine.com/2012/09/european-mobile-banking-users-get-smarter/>

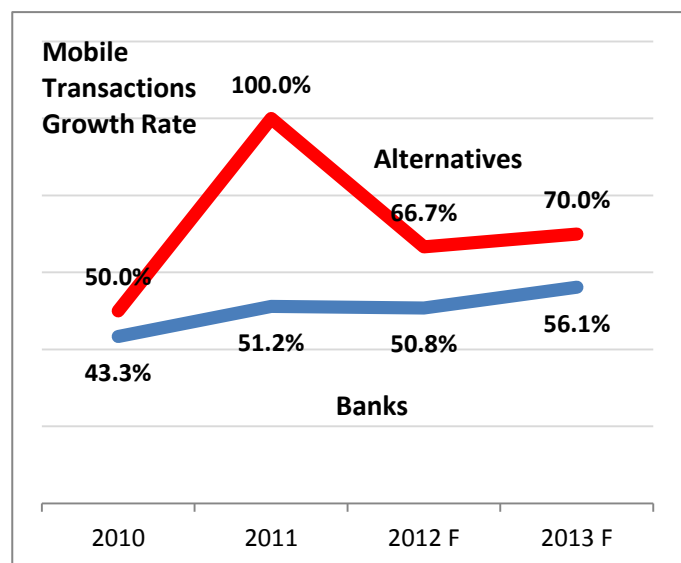
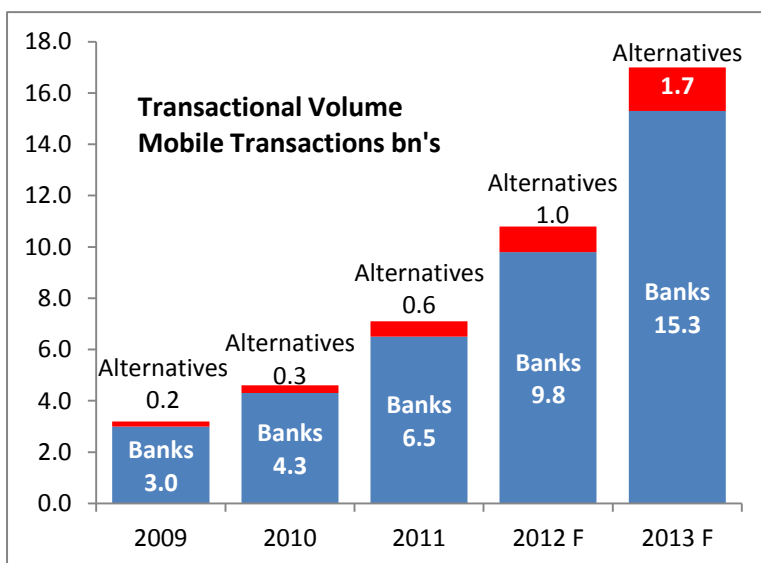


## 1.2.2 Type

### Volume E Transactions<sup>5</sup> Worldwide actual and Forecast



### Volume Mobile Transactions



The source of this data is the World Payment Report 2012 compiled by Capgemini and RBS, of the 2011 total of 306bn total non cash bank transactions, 7.9% were E Transactions. E Transactions are projected to grow by 47% from the 2011 base and mobile transactions are projected at 239% of the 2011. Banks grow rates are c20%pa in E Transactions and 43%-56%pa in mobile. However the alternative outside bank sector is growing at over 40% pa in E Transactions and 70% in Mobile. The innovators are taking market share. The World Payments report concept of growth and innovation areas is illustrated in Appendix 5 its sees very little of the innovation illustrated in this report.

<sup>5</sup> World Payment report 2012, Capgemini, RBS, EFMA, <http://www.uk.capgemini.com/insights-and-resources/by-publication/the-8th-annual-world-payments-report-2012/>

### 1.3 Structure of Mobile Money

Mobile Money breaks down into three distinct

- Existing Banks and their infrastructure
- Payments and Point of Sale (POS)
- E Currencies - values stored electronically

#### 1.4 Existing Bank infrastructure

The existing banking infrastructure has extended its online offering into mobile, one of the innovative has been Barclays with PINGIT and Pay Tag stick-on NFC chip. The overriding strategy incumbent's strategy appears to keep existing bank configurations and POS payment infrastructures and modify them for the mobile distribution channel. No bank has revolutionised its model towards the Kenyan M-PESA model basing the bank relationship entirely the mobile phone, with a national agent model to support physical transactions. Social Media is not touched by the existing banking establishment. Mobile is seen as another sales channel, not the primary relationship tool.

#### 1.5 Payments and Point of Sale (POS)

This is a highly competitive arena.

There are at least 8 different kinds of technology solutions to delivering mobile money to the customer. Innovators and start-ups are the leaders with existing banks following. The preferred solution for existing banks is NFC for consumer retail payments or their own online systems delivered to the mobile device as a terminal, all through their exiting payment networks/ architecture. They see the ideal solution to get an NFC chip in every mobile device manufactured. In an idea world having a dual key security system with embedded code in the device's SIM Card. NFC is gaining traction with numbers of NFC Smartphone devices delivered to be estimated at 30m in 2011 rising to 700m pa in 2016.

There is at least a four way battle going on between the Banks, device manufacturers, Mobile Network operators and delivery and processing networks. This is characterised as a standards, interoperability issue but it is really over how the processing fee cake is split. VISA, Master Card and Amex as branded transaction processors and system facilitators have very strong positions due the size of their existing global networks. PayPal now is a global competitor and high tuned to the E Commerce business model, Amazon and Google are rolling out their offerings in this space and Facebook is starting to find its way in this sphere.

At the same time there are some very well funded startups are grabbing market space through innovation, designing their business model from the Smartphone and customer experience backwards.

#### 1.6 E Currencies<sup>6</sup>

##### 1.6.1 Economic Currencies

As we all know banks store value in national currencies electronically on their computers, within Europe these bank accounts are protected to Euro 100,000 and in the UK £85,000, (Note: check this very carefully it always is not the case).

##### 1.6.2 E Currencies

A whole series of electronic currencies have been developed by individual groups, these are completely unregulated. One has to ask if they are a legitimate component of the world's economy, bypassing outdated and expensive national or bank promoted currency unions, or are they electronic function of the shadow, grey or criminal economy. The shadow economy has been estimated at

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<sup>6</sup> Readers must not use this information to participate in any of the currencies or exchanges, your money is at extreme risk when dealing in or using unregulated E Currency see legal disclaimer on page 2.

Euro 2.2trillion c 20% of Europe economy<sup>7</sup> without including the value of the world's criminal economy<sup>8</sup> estimated by the United Nations Office of Drug and Crime to be in the range of \$1.6trillion to \$2.1 Trillion.

The widest used E currency is Bitcoin an independent P2P (peer to peer) encrypted currency. There is a complete economy/ infrastructure established around Bitcoins, they can be mined, stored, exchanged, and lent. Ven is a currency based upon how much you put into a currency system, mainly based upon time but can be bought and traded. This is not computer games or simulations you can buy these currencies exactly the same as Dollars or Yen.

### **1.6.3 E Currency Exchanges**

To complement these currencies in parallel a number of exchanges have sprung up to convert these currencies into national currencies or other forms of value again completely unregulated

### **1.6.4 Games**

The worlds video and internet games industry is worth c\$60bn - \$80bn within game purchases projected to rise to \$4.8bn<sup>9</sup> A number of game currencies have been created. Games illustrate the E Money world exceptionally well, the delivery system moving towards mobile and Smartphone, how do you pay for the initial game, how do you trade within the game, how do you exchange the currency beyond the confines of the game. Linden dollars from the game Second Life are the most quoted example but is probably surpassed by WOW (World of Warcraft) Gold silver, copper, points and tokens.

### **1.6.5 Prepaid Cards**

These are cards loaded up with value that can be spent and traded or exchanged. There is a whole range of prepaid cards issued by banks, VISA and MasterCard to facilitate cash into electronic money, once purchased they function exactly as a credit or debit card. Ideal for the unbanked, children, monetary control over expenditure.

Apple Corp iTunes prepaid gift cards<sup>10</sup> are the best example of a retailer's gift/ card voucher you can buy up to £100 value and be used for app, music and eBook purchase.

### **1.6.6 Points, Rewards Vouchers.**

Points and rewards are offered by nearly every UK retailer to encourage brand loyalty, repeat purchase, higher levels of customer engagement. In the UK Tesco, Nectar, Avios, BA/Air Miles are the leading points based rewards systems, the value of loyalty points varies by scheme if you take an average of 1.5% of relevant retail sales the market is £3bn pa. Gift vouchers are worth £4.5bn<sup>37</sup> pa.

## **1.7 Social Currencies**

Social currencies are currencies generated or used by Social networks or behaviour, usually time in pursuit of a group or community objective.

## **Influence and Reputation**

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<sup>7</sup> The Shadow Economy in Europe 2011, AT Kearney, Professor Friedrich Schneider Johannes Kepler Universitat Linz [http://www.visaeurope.com/en/newsroom/news/articles/2011/electronic\\_payments\\_help\\_count.aspx](http://www.visaeurope.com/en/newsroom/news/articles/2011/electronic_payments_help_count.aspx)

<sup>8</sup> United Nations office on Drug and Crime

[http://www.unodc.org/documents/toc/factsheets/TOC12\\_fs\\_general\\_EN\\_HIRES.pdf](http://www.unodc.org/documents/toc/factsheets/TOC12_fs_general_EN_HIRES.pdf),

[http://www.unodc.org/documents/data-and-analysis/Studies/Illicit\\_financial\\_flows\\_2011\\_web.pdf](http://www.unodc.org/documents/data-and-analysis/Studies/Illicit_financial_flows_2011_web.pdf)

<sup>9</sup> Juniper research Jan 2012 <http://www.juniperresearch.com/viewpressrelease.php?id=361&pr=281>

<sup>10</sup> <http://store.apple.com/uk/browse/home/giftcards/itunes/gallery>

### **1.7.1 Facebook Likes**

Are a currency they indicate your popularity or maybe infamy on Facebook. Lady GAGA has 53m likes, GAGA's Social Media marketing and understanding is exceptional she communicates tough social issues such as weight gain and even the presidential elections to her monsters (fans). However the span of interest of social media is amply illustrated by the fact that her posting of the Vice Presidential debates got 21k likes but a posting of one of her young fans (monsters) clad in Mickey mouse clothes got 219k likes. To marketers Facebook likes and the pattern of traffic generated are the currency of brand management and promotion. Fidor Bank<sup>11</sup> the German E Bank will pay you more interest according to the number of likes you have. The monetisation of social influence is in its infancy.

### **1.7.2 Twitter/ You Tube Followers**

Are currencies in a very similar fashion to Facebook but in a less directed fashion Twitter displays sentiment in 140 characters. Using Lady GAGA as a template she has 31m followers and uses all of twitter's picture and video capacity to appeal to her fans. Twitter followers have been traded on EBay. YouTube's viral video reach is a currency, monetisation being advertising, "Charlie bit my finger"<sup>12</sup> at 495 million views tops the chart, but Barclaycards extended toys advert got another 50,000 views via You Tube.

### **1.7.3 Klout / Peer Index**

These are reputation evaluation machines and evaluate a numerous internet sources to indicate your social influence. Their influence scores are being used by third parties to give you offers and to evaluate the extent of your web influence. As the worlds information/branding industry become more aware of Social Media indices their value to an individual/brand will grow.

## **Social Exchanges**

### **1.7.4 Open Source – Currencies and Value exchanges**

There are a number of open source currency and value exchanges they are in effect a clearinghouse for debts between connected persons. Time banking is another form of this, you give a certain amount of time to a community and you can draw upon the communities' time

### **1.7.5 Local Exchange Transfer Systems "LETS"**

LETS are a local currency such as the Brixton, Bristol or Totness Pound, the objective is to keep economic activity as represented by a Fiat currency within a geographic boundary. There is a nationwide association of LET's within the UK. None has achieved massive traction but they work in the background of local economies usually through community groups. WIR in Switzerland is a 65,000 strong Swiss Bank using a Let currency. This system can work at scale but never has had the institutional support in the UK to make it really take off.

### **1.7.6 Barter, Favour. Swap, Collaborate**

There are a number of schemes in these areas. Many of them are small scale but some of the innovation in this sector may be applicable for full scale commercialisation.

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<sup>11</sup> <https://www.fidor.de/produkte/fidorpay/like-zins>

<sup>12</sup> [http://www.youtube.com/charts/videos\\_views?t=a](http://www.youtube.com/charts/videos_views?t=a)

## 1.8 Entrepreneurial Opportunities

### 1.8.1 Mobile Payments and POS

The whole payment value chain is getting near to a tipping point. In 7 years, certainly 10 every human will have access to a Smartphone, opportunities exist in the entire sphere of Financial Services (FS) in product delivery and differentiated customer experience by using the Smartphone or Tablet. Here are some suggestions, it's not intended to be an exhaustive list:

- Basing the Financial Services (FS) user experience from the mobile device to the user and build your company backwards from it. The losers in the mobile space will be the companies that merely add on a mobile experience to web based systems and hope for the best.
- Security, identity and validation
- The worlds unbanked  
140 Mobile Money implementations exist in the developing world, <http://www.mobilemoneylive.org/money-tracker> , 104 planned, a new market for FS of 2-3bn, half of the world's population. These FS are going to be delivered by MNO (mobile network operators) with only partial knowledge of the FS value chain, their banking partners are weak in understanding mobile UX, UI. The market for FS mobile consultancy and white label system solution's is in the process of doubling.
- Bring the SMS banking systems from Kenya into the developed world and aim it at the bottom 25% of society a market ignored or very grudgingly served by the West's FS industry.
- Full POS and mobile integration with seamless pathway into back office accounting systems SaaS based systems, Magneto<sup>13</sup> (owned by PayPal) is an example of a generic solution, take these systems into industry vertical markets worldwide.
- Big Data for mobile FS transactional analysis, location analysis integrated with social media and behavioural/advertising profiling.
- Breakdown the FS supply chain further, i.e. a bank account for a popup event, conference or market combined with POS & back office processing bundled with stand/product insurance.
- Insurance on demand by the day, hour, location activity
- Use rewards, points, gamification based systems to stimulate demand and customer loyalty.
- Market segmentation – develop payment solutions to be industry or market specific.

### 1.8.2 E Currencies

E Currencies have the potential to revolutionise the world's relationship with money, investment and exchange. Working models are now in place and these deliver, albeit in a completely unregulated environment. The cost of a currency has been reduced to cents or fractions of a cent, its exchange and delivery to any mobile device can be instantaneous. There is no doubt, transfer, exchange, investment is wanted by customers at the click of a button; central to FS is a trust relationship this can only be established by other humans and by complete transparency. In the world we are now in the destruction of trust (brand) is one tweet away or Facebook like/dislike post away. Below are a number of suggestions

- Create your own currency on the Bitcoin model
- Security systems around e-currencies
- Vaults – E currency vaults
- Exchanges – set up new ones
- Implement E-currency models into new markets
- Bring E currencies and their exchanges into a regulated and transparent environment.
- Develop trusted currency exchanges for games, gifts vouchers.
- Implement prepaid solutions into new markets and segments brand with additional point's

<sup>13</sup> <http://www.magentocommerce.com/product/mobile>

rewards or social/community goals.

- Take points and reward systems into the E currency wallet world on an aggregated basis
- Become a portal for transferring economic activity out of the E Currency space into normal commercial spaces.
- Influence, link it with big data to create ways of analysing and influencing segmented customer bases, find ways to influence nodes of influence that have disproportionate impact on customer behaviour.
- Study and understand how to use Social Media influence, Lady GAGA and the like are case studies, bring that understanding into mobile channel marketing of financial services. Lady GAGA's monsters as they mature are your next customer base. The earlier you appeal to them the greater market share you will get.

### **1.8.3 Social Exchanges**

The Social, Voluntary and Charitable sectors often lead in the development of new business models. Their problems are complex, multi stakeholder, difficult to measure, suffer from unintended consequences of intervention and high levels of press and political intervention. They also have little or no funding, this makes them an excellent space to study and innovate within.

- Create communities that settle and exchange value on non monetary but very socially positive activities, for instance child care and the care of older citizens in the community.
- Combine social value exchange with local currencies
- Development of collaboration networks, social gift, collaboration, barter, swap, lend either in the social or commercial space.
- Set-up and manage local currencies (LETS) to keep economic activity within a locality.
- Create the vital connection between alternative currencies and mutual financial institutions.
- Commercialise Barter, Swap and collaborative systems

## 2.0 Mobile Money - UK

### 2.1 Overview

Putting a worldwide perspective on the \$ volume in the worldwide mobile payments industry, the consensus of the major forecasters appears to be payments around the \$200bn- \$250bn level for 2012 with 2015-16 at around the \$600bn - \$700bn level<sup>14</sup> x3 market growth.

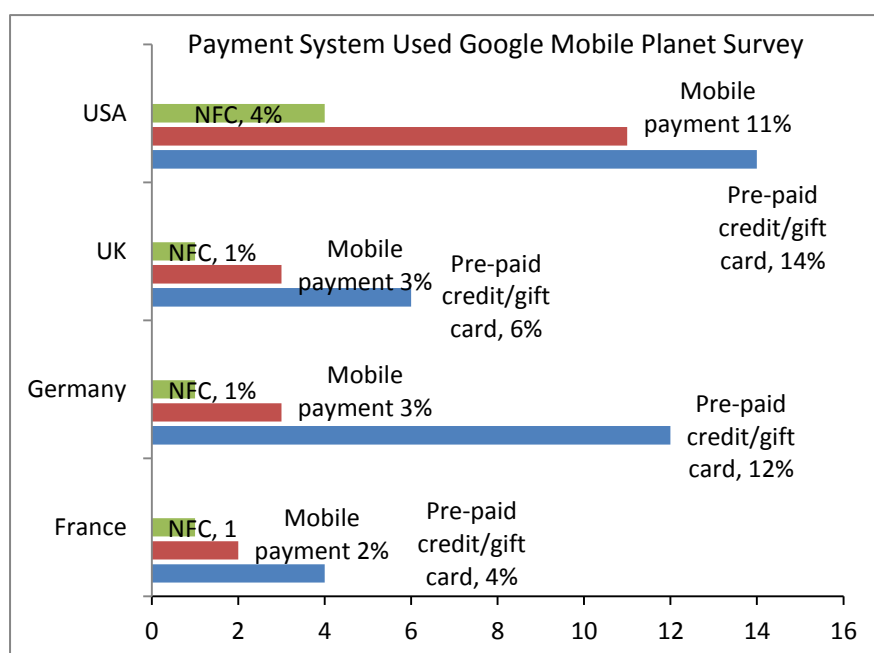
Nicky Manby of Visa EMEA Emerging Markets Head believes we are now at the tipping point when mobile money starts to generate real critical mass<sup>15</sup>

James Anderson of Mastercard target is its existing franchise of 1.9bn cards. His view is that NFC gives a balance of convenience and security for the customer at the POS (Point of Sale) and allows additional services and information to be provided during the purchasing experience. The MasterCard

Paypass system encompassing, card, NFC, tag, wristband and even a watch. He intimated that Google has partnered with MasterCard<sup>16</sup> for the infrastructure for its US wallet.<sup>17</sup> His other key point he makes is the relationship with the customer is key to acceptance of this technology, this relationship may not be a within a traditional banking company.

### 2.2 Size & Type

According to ComScore<sup>18</sup> the UK had 7.8m Smartphone interactions with bank accounts, the highest in Europe. 25% of the UK's mobile phone internet users access their bank, the largest being the 25-34yr old group at 33%<sup>19</sup>



#### Types

Google<sup>20</sup> undertook worldwide research on payment types used by samples of Smartphone users. The USA leads Europe has lower use with the exception of prepaid cards in Germany, twice that of the UK and three times that of France.

NFC and mobile payments are at their infancy

<sup>14</sup> <http://mobithinking.com/mobile-marketing-tools/latest-mobile-stats/f#m-payments>

<sup>15</sup> <http://www.mobilemoneylive.org/videos/visa-mobile-money-market-is-at-tipping-point/25072>

<sup>16</sup> <http://www.mastercard.us/google-wallet.html>

<sup>17</sup> <http://www.mobilemoneylive.org/videos/mastercard-targets-billions-of-mobile-payment-users/25012>

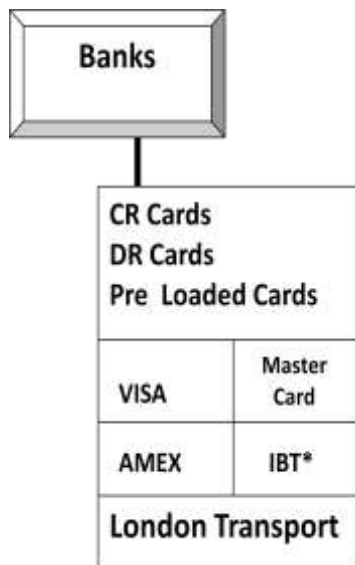
<sup>18</sup> <http://www.comscoredatamine.com/2012/09/european-mobile-banking-users-get-smarter/>

<sup>19</sup> <http://www.antennasoftware.com/news/press-releases/6-30-2011-one-in-four-mobile-internet-users-using-mobile-banking> Juniper Research, Gartner, Yankee.

<sup>20</sup> <http://www.thinkwithgoogle.com/mobileplanet/en/> very worthwhile worldwide mobile research tool.

## 2.3 UK Participants by Type and Market

### 2.3 Major Banking Institutions



\*Bacs, Link, Swift

UK Banks have embraced online banking pre-internet; in 1984 the Bank of Scotland introduced its HOBBS home and office banking system using Prestel. In the main they have ported their internet web site solutions into mobile phones, some restricting the service to balance and account lookup.

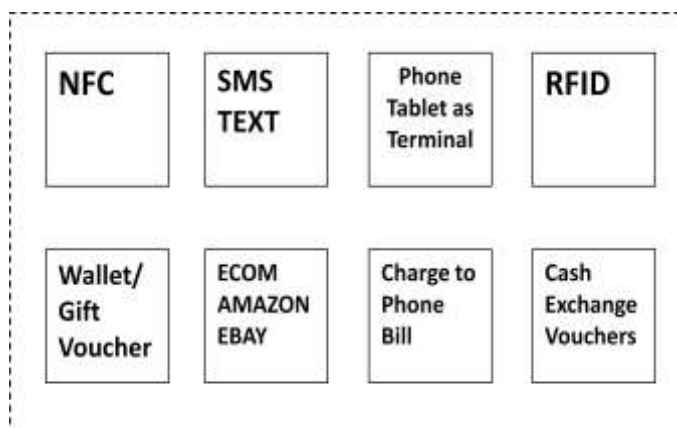
The major innovator has been Barclays/ Barclaycard who has implemented a form of P2P (peer to peer) banking with it Pingit system and NFC via the Barclaycard VISA brand. This consists of contactless card payment, NFC attached to a Smartphone, "Pay Tag" and contactless terminals at Boots, Prêt Manger and McDonalds and other retailers.

NatWest did extend their mobile app "get cash" to be able to automatically withdraw cash from an ATM if you lost your card but withdrew the system because of security concerns.

The Banking industry follows the major credit cards franchiser's innovation path and is very cautious of moving out of the comfort zone of exist payment loops and merchant and credit card relationships. They will form alliances with innovators such as RBS with GoCardless. Amex, VISA and MasterCard are in a continuous battle together with their Bank franchise holders over the premium Corporate Travel and Entertaining market. Rewards and points dominate the battleground for the Corporate account led by Amex who are industry leading in the use of rewards, points, cashback and air miles to capture corporate travel spending. Both VISA and Mastercard will now accept out of loop payment processing from non traditional bank based companies, MasterCard appears to be more willing to innovate in a global sense examples being its relationship with the Google wallet.

London Transport (TfL) is mentioned as it has had an outstanding success with its Oystercard system with 600m PAYG journeys per year based on RFID technology. They have had an alliance with Barclaycard "One Pulse" creating an integrated contactless credit and travel card, but that alliance has not really progressed anywhere. They are not maximising the FS commercial opportunities that flow from this franchise.

### 2.4 Payments POS (Point of Sale)



#### 2.4.1 NFC

NFC (near field communication) is a contactless technology where data can be passed between a mobile phone and another device, it is a more advanced device/protocol than RFID (Radio Frequency Identification). c70 hand sets are available for use. Seamless integrations are available for Android, Google Wallet, RIM and Windows 8, Apple does not support NFC.



Barclaycard has led the UK market with its major retailer programmes at Boots, Transport for London, Prêt A Manège and McDonalds; this has been more focused on contactless cards rather than Smartphone's. To accelerate NFC adoption is rolling out PayTag<sup>21</sup> stick on chip to get around the phone NFC enablement problem, it states on its website it will have 150,000 readers installed by the end of 2012.

MasterCard has its Paypass system, tap and go with contactless card, NFC Mobile Phone, Keyring/ payment tag, wristband, watch. It does not see its system exclusively for credit card transactions, mobile ticketing, and security entry are other applications. Its strategy appears to licence this delivery system to any qualified user in its existing user base. The first applications are starting to appear.



#### Vincento payment services,

<http://www.vincento.co.uk/> have developed the mobile wallet, Moneto.com is an integrated wallet, NFC and contactless card solution, based on top of their Kaila prepaid MasterCard, <http://www.kalixa.com>.

They did not stop there but have developed a watch based contactless solution with LAX <http://www.vincento.co.uk/en/news/watch2pay-contactless-payment-watch.aspx> Lax can be found at <http://watch2pay.co.uk/>.

This is the first application of MasterCard's strategy expect them to roll this out with all of their Prepaid card operators. They have market leadership with 86 of the 127 cards profiled on money.co.uk<sup>22</sup> VISA having 32 cards.

#### 2.4.2 SMS Text

UK Banks have ignored SMS banking only allowing limited functionality such as balance interrogation. The SMS Text based banking systems have not ported from the developing world into the UK. Limited text based integration of your balance or alerts are available. There are at least 10 text based loan companies. Only in some of the small LETS systems, such as the Brixton pound which used Cyclops<sup>23</sup> software has SMS banking been used.

#### 2.4.3 POS applications



**MPOWA**

Turning your device into a POS (Point of Sale) credit card terminal opens up the innovation space. No longer are you tied to a Bank system, a terminal and a wire or a banks charging rates, you can also integrate payments directly into your business systems.

Examples of this kind of innovation are:

**MPOWA** <http://www.mpowa.com/index.html> –this is a full Chip and Pin application across all devices, small card stripe reader with keypad. Developed by entrepreneur Dan Wagner, London at a cost of \$13m

<sup>21</sup> <http://www.barclaycard.co.uk/personal/paytag/what-is-paytag>

<sup>22</sup> <http://www.money.co.uk/prepaid-cards/all-prepaid-cards.htm>

<sup>23</sup> <http://www.cyclos.org/>



**izettle.com** is a device attachment to allow you take cards, based in Sweden and now available in the UK. <https://www.izettle.com/gb>.

Funding is from the first division of Private Equity

Greylock Partners, Creandum, Northzone, MasterCard, American Express and SEB Private Equity.

They publish an API <sup>24</sup> for easy integration.



Both systems have stolen a march on Square <https://squareup.com/> a competing device/wallet which has not yet launched in Europe its first launch outside the US has been Canada. Square completed a D Series funding \$200m in September 2012<sup>25</sup> giving it a \$3.25bn valuation. This fund raising included Starbucks as an investor \$25m<sup>26</sup>. Square no doubt will use the 1,869 Starbucks stores in its EMEA (Europe Middle East Africa) region to implement its POS solution. A first quarter 2013 launch looks likely.

#### 2.4.4 Integration with Back office and E Commerce systems

- Magneto offers a seamless E Comm. solution including mobile payments, these payment options will be integrated <http://www.magentocommerce.com/product/mobile> into its systems shortly
- **Intuit**<sup>27</sup> and **Sage**<sup>28</sup> have similar ecommerce solutions it again can only be 3-6 months before the above solutions are integrated into their packages. The whole POS/Ecom enterprise/Saas software industry will follow.

The companies that have FCA approval for E money are displayed on the list of payments and E currency list appendix 1.

<sup>24</sup> <https://developer.izettle.com/> <http://techcrunch.com/2012/06/12/europes-square-izettle-launches-api-to-integrate-payments-into-apps/>

<sup>25</sup> <http://techcrunch.com/2012/09/17/square-closes-200m-series-d-from-starbucks-citi-rizvi-at-3-25b-valuation/>

<sup>26</sup> <http://www.telegraph.co.uk/technology/news/9461076/Starbucks-adds-Square-mobile-payments.html>

<sup>27</sup> <http://www.intuit.co.uk/quickbooks/accounting-software.jsp>

<sup>28</sup> <http://www.sage.co.uk/software/solutions>

## 2.4.5 RFID

### TFL – Transport for London

London Transport is one of the world's outstanding examples of RFID cards being used to transform public transport. The success of Oystercard has not been maximised, it could have become the standard for the whole of the UK transport industry, or have become the public sectors RFID card for all transaction with Government. It has expanded to cover Rail in the Greater London geographic area and TfL has tested the market for alternative systems, its relationship with Barclaycard seems to have cooled.

### Squidcard<sup>29</sup>

Squidcard, Smart Transactions Group, is a leader in education, transport, loyalty cards, business and Aid distribution in developing countries. It offers an alternative to CR or DR or MNO (Mobile network operators) solutions. Squid can be operated as a closed or open loop system taking e money from other wallets. Door opening and access can be added together with fingerprint signature verification. It is a genuine emoney alternative. No mobile solutions are available yet.

## 2.4.6 Wallets and Gift Vouchers

E Wallets arose because credit card transactions were not allowed to be paid for gambling services. With the growth of online gambling this became a serious problem for the gambling corporations. E Wallets developed to be the intermediary between the credit card company and the Gambling Corporation. The restrictions around gambling have been relaxed by credit card companies customers but the concepts of the E Wallet's has become established. They are a method of depositing funds electronically into an electronic account that can be used to purchase items on the web or loading your Cr and Dr Card details directly onto your mobile phone.

E Wallets have now become mainstream financial services products; Google Wallet is an elegant evolution of the technology and customer experience. Look at Facebooks alternative payment<sup>30</sup> methods worldwide in excess of 80, Ukash can be transferred into 22 wallets<sup>31</sup> or prepaid cards

Wave is the name of the wallet being developed by O2, Vodafone and EE 80% of the UK's mobile market. They are aiming for a 2013 launch of their offering seamless between the three networks. Their NFC strategy is unclear with mobile marketing being mentioned as their first commercial target.

## 2.4.7 E Comm

The giants of E Commerce Amazon and Ebay/Paypal will have a profound impact on how mobile money develops.

### Amazon

Allows you to send money directly to another Amazon account holder<sup>32</sup> it also has a standalone business solution "Check out with Amazon" you can integrate it with your own E Comm systems, it also works for digital goods. These systems are ported to mobile through "Checkout by Amazon mobile" they offer developers access to API's <http://docs.amazonwebservices.com/AmazonFPS/2007-01-08/FPSDeveloperGuide/>.

In essence, the whole of the Amazon payments infrastructure is available to third parties.

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<sup>29</sup> <http://www.squidcard.com/index.html>

<sup>30</sup> <https://www.facebook.com/help/203680236341574/>

<sup>31</sup> <https://www.ukash.com/global/en/where-to-spend.aspx?cat=all>

<sup>32</sup> <https://payments.amazon.com/sdui/sdui/personal/money>  
<https://payments.amazon.com/sdui/sdui/business/overview>

## **EBAY - Pay Pal**

It has a very similar system to Amazon<sup>33</sup> with the addition function of payment inshore, a bar code is generated that is then scanned by the retailer, no Wifi or Phone network is required for it to operate. Money can be sent to other PayPal users, store cards can be scanned into the app, you can transfer to/from your bank account, prompt other users to pay. For business users there is a complete set of payment options, it is completely integrated into 49 other systems. An extensive API library is available for developers. <https://www.x.com/developers/paypal/documentation-tools/api>

Amazon and PayPal make the world's most advanced payments systems available to any third party. You do not get the offer of such integration from other payment processing system owners. With such proven, global and scaled systems available at low cost, Fintech innovators should seriously ask do I leverage this technology or do I use my investor's money to reinvent the wheel? Existing Financial Services operators should look very closely, particularly at PayPal with its complete openness and ask the same question.

### **2.4.7 Charge to Phone Bill**

Charging directly to MNO's (mobile network operators) bills are controlled by Payforit <http://www.payforit.org/>, There are 15 intermediaries which are listed in Appendix 3

Impulse Pay <http://www.impulsepays.com/> is the leading mobile payment facilitator; they have an exceptionally clear series of API's <https://www.impulsepays.com/code>. One click payment options for in game payments are available.

The downside of using this system is that it costs in the range 20-30% of revenue.

### **2.4.8 Cash exchange vouchers**

Cash exchange vouchers are vouchers you buy typically at a local shop you get a code and are able to use them on-line to pay for goods or to load up a wallet/prepayment card, Ukash leads this market worldwide, it has identified a market segment not served by traditional methods and followed the Global FS value chain and been successful, a case study of taking a niche product global.

## **2.5 How do you use these systems?**

When you consider the various payment methods a whole new world wide payment infrastructure is developing, complementary to traditional banking systems, it has taken 8.5% of all electronic payments in 2011, rising to a forecast of 12.1% in 2013 with a 46% growth rate, see 1.2.2 . This infrastructure was initially to support Gambling websites who were not allowed to take credit or debit cards. It then moved into supporting the unbanked sector particularly money transfers for migrant workers; it's now become a mainstream payments method supporting Web commerce in the widest sense.

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<sup>33</sup> <https://www.paypal-marketing.co.uk/mobile/index.htm> <https://www.paypal-marketing.co.uk/instore/>

## 2.6 Entrepreneurial Opportunities

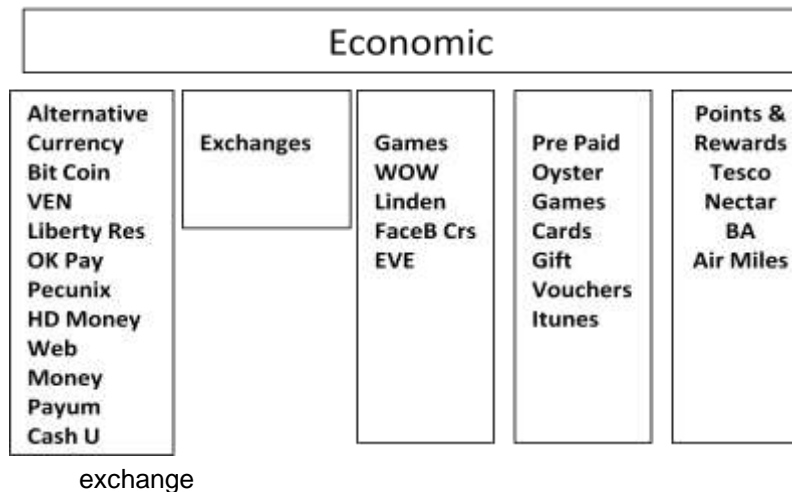
The driving force in this market is the growth of Smartphone's and the ability to use them to pay for goods. Innovative methods and systems are now being mass marketed to make this easier to do. MasterCard, Visa, Amex will make more and more of their infrastructure available to third parties. Strong competition could come from Amazon, PayPal EBay, Google and Facebook. The FS innovator now has the opportunity to use this infrastructure to leverage their business model; it was previously only available to the largest FS institutions. The competitive landscape has truly changed.

- Design of customer experience based around mobile and second screen – FS (Financial Services) are poor at customer User Interface (UI) and User experience (UX). Opportunity exists for well designed mobile consumer centric solutions.
- Use the infrastructure described above do, not spend your investor's funds reinventing it, licence, do JV's and alliances.
- Segment markets and channels and devise solutions.
- The foreign remittance space still offers opportunities as it migrates to mobile
- E wallets offer considerable opportunities but its branding, segmentation, packaging and user experience that will determine market share.
- Current offerings of rewards and added benefits are haphazard and not targeted to specific market segments or markets, innovate rewards, points, benefits, gamification into mobile.
- Niche markets tackled in a similar way as Ukash did offer global opportunities.
- Back office - integrate total processes in niche market segments.
- Social Media /Twitter integration, bring Social Media into FS and payments branding
- Big data analysis of transactions to predict customer behaviour
- Location / time/ shopping basket analysis of purchasing
- Sentiment analysis of brands, offers, purchasing behaviour

### 3.0 E Currencies<sup>34</sup> (important see notice)

E currency is an electronic stored value that gives the user access to a form of economic or social value. It may be exchangeable into other forms of value it can be specific to an individual, collectively assembled into an accumulated value. Transferability or payment is instantaneous.

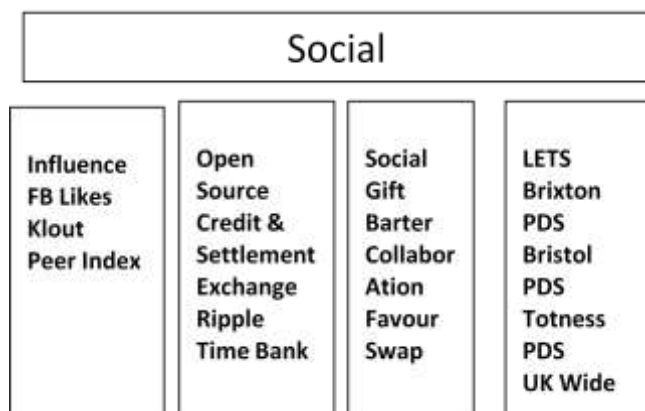
#### 3.1 Driving Forces



##### 3.1.1 Economic

Commerce has migrated to the internet, means of exchange and payment methods have evolved to meet the trading and transfer needs of the digital economy.

Existing banking and finance methods have lagged behind technological capacity of the internet evolving as series of gatekeepers and centralised control. New forms of economic value have been created by the internet and need a means of



##### 3.1.2 Social

The internet is a decentralised system of information transfer giving individuals and groups the ability to organise their finances and social goals to achieve common collective objectives. There is a political agenda here as well; some of the currencies are designed to bypass the system of national currencies creating a decentralised peer to peer financial system not controlled by Wall Street, Federal Reserve or the ECB.

#### 3.2 Types of Currencies

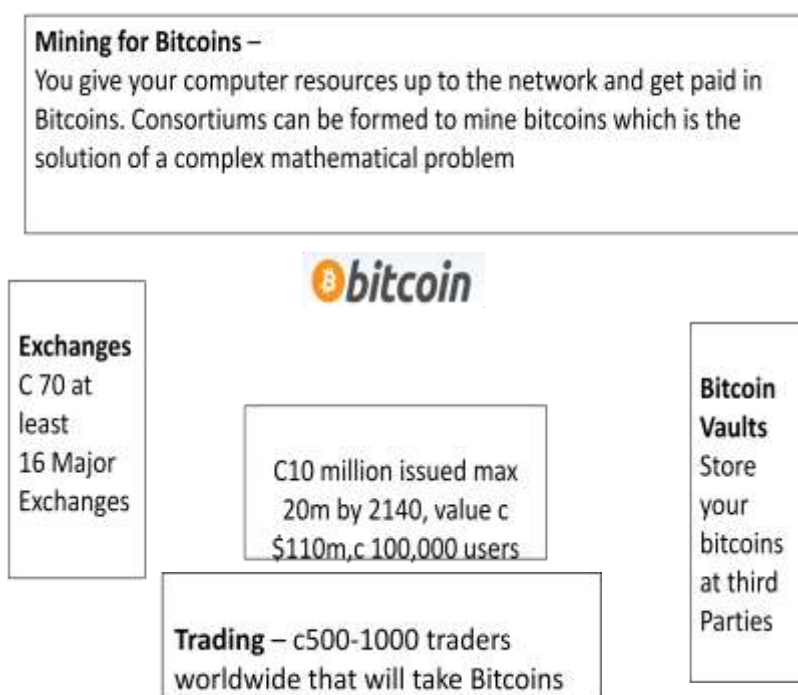
##### Alternative Currencies

###### 3.2.1 Bit Coin

Bitcoin is a decentralised P2P (Peer to Peer) currency alternative. It has developed a whole economy.

<sup>34</sup> Please note nothing in this section should be seen as an endorsement, encouragement or enticement to participate in using E Currencies or any exchange, they are anonymous unregulated markets, any form of economic value may be completely lost, they are not investments or valid financial instruments do not use them. Using Bitcoins or similar may be considered to be illegal in certain jurisdictions and carries severe judicial penalty.

## The BitCoin Universe – completely decentralised P2P network



Legitimate currencies can be exchanged into BitCoins they can be used to purchase items in the digital world and physical world. By offering up your computing power to the network you can mine bitcoins. There

are 10 million Bitcoins in existence, with a maximum of 20 million there has been a maximum trading volume of 14m in one day x1.4.<sup>35</sup> The Bitcoin system is worldwide and decentralised, dependent on a decentralised processing system in the main donated by its users. The encryption and transfer process of Bitcoins is thought to be highly secure by its developers. **See notice 34**

### 3.2.2 Other E Currencies

Ven, Liberty Reserve, Pecunix, HD Money, Web Money are examples of similar emoney currency systems.

The challenge for legitimate national and regulated currencies and the financial services industry is that these currencies exist at all. One point of view is that they have emerged to meet the demands of the world's black economy and they should be banned. Another viewpoint is that they represent true internet innovation and are the new model of currencies and of decentralised and fragmented currencies. Maybe the world's governments, central banks and financial services industries should catch up with the concepts of behind these currencies otherwise the consumer will vote with his or her Bitcoin. What could emerge from this is a series of defacto privatised currencies or maybe the worlds multinational's (44 of the world's top 100 economic entities) fed up with cycle of ever depreciating national currencies start their own currency? The technology is certainly there.

### 3.3 Games and Currencies

#### 3.3.1 Cash Deposits into Games

Online games (MMOGP) are funded by Credit /Debit cards, Game cards, wallets, vouchers, pay in game mechanisms by exchanging goods or existing credit. The value of the online game segment is forecast to grow to \$35bn by 2017 <sup>33</sup> this is the scale of the core game playing economy that needs payment methods.

#### 3.3.2 Game Economies

Games are becoming economies in their own right. Many are adopting the freemium payment method of the core platform being free, if you want to get any extra capacities for your hero you have to pay for them. In certain games you can buy and sell items. In some games you can change your gold and dollars into real world convertible currency. To put this into context Activision/ Blizzards (World of

<sup>35</sup> The Next Web 2/9/2012 <http://thenextweb.com/insider/2012/09/02/bitcoin-alive-stay-or-slowly-fading-away/>



Warcraft owners) online subscriptions were \$1,090bn for the 9 months 2012<sup>36</sup> (GAAP) its 2012 revenue forecast from all forms of its games is \$4.6bn(GAAP), Online games segment estimated to be \$19bn in 2011 rising to \$35bn by 2017<sup>37</sup> with the total games industry worth \$82bn.

### **3.3.3 Second Life – Alternative Reality/Universe based on avatars.**

Second life has a functioning economy, you can buy/rent land and a whole series of objects just like the real world, a whole series of exchanges have grown up so that real world cash can be exchanged in Linden Dollars, the rate, mid point is 254 (8/11/2012) to the dollar.

### **3.3.4 Facebook Credits**

Facebook credit is a micropayment system for virtual goods and gameplay <http://www.facebook.com/giftcards> or <https://developers.facebook.com/docs/payments/> 80 + methods are available worldwide and Facebooks list of payment methods, this is actually a worldwide directory of alternative payment methods. <http://www.facebook.com/help/203680236341574/>

### **3.3.5 Eveonline**

A series of star universes it does not allow reconversion of its currency Plex, but you can buy an Nvidia games graphic card using Plex. Within his Universe all forms of trading are possible with Plex, buying, selling of materials and other game resources, markets can be manipulated or cornered just like the real world.

### **3.3.6 WOW (World of Warcraft) – 10m subscribers<sup>38</sup>**

In nine months 2012 Activision generated \$1bn revenue from all its online games. WOW Game currencies can be traded external to the Game, the usual mechanism is to pay in the exchange for Gold and then you will be met in the game by another player and the Gold handed over.

### **3.3.7 Virtual goods exchanges**

At least 15 game currencies, usually in some form of gold or currency can be traded on what are recognisable as exchanges.

The games industry has not grasped the need for its game economies needs for exchange mechanisms. The exchange of Linden dollars and the other games currencies are done in a within grey area in legality and in permissions form brand owners. Maybe the solution to this is the creation of a "Universal Game Dollar" exchangeable and playable across the games industry. The inertia to this kind of solution is existing game owners get somewhat myopic on the subject of unused game credits.

### **3.4 Prepaid Cards - Branded**

Transport, Gifts, Vouchers, Retailer Cards. TfL's Oyster card is just for travel with London there are no identifiable exchanges if you want to sell a partially used card. However gift cards do have exchange value. In the USA Plastic Jungle and Swapagift will sell exchange your points. In the UK this is done manually by Voucher buyer who buy M&S vouchers at 65% of face.

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<sup>36</sup> [http://files.shareholder.com/downloads/ACTI/2160799586x0x612530/8efb3a44-ce95-4b82-ab7c-2dc6cce28732/ATVI\\_Q3\\_2012\\_release\\_and\\_tables.pdf](http://files.shareholder.com/downloads/ACTI/2160799586x0x612530/8efb3a44-ce95-4b82-ab7c-2dc6cce28732/ATVI_Q3_2012_release_and_tables.pdf)

<sup>37</sup> <http://www.forbes.com/sites/johngaudiosi/2012/07/18/new-reports-forecasts-global-video-game-industry-will-reach-82-billion-by-2017/>

<sup>38</sup> <http://files.shareholder.com/downloads/ACTI/2160799586x0x612637/8e7020ee-3a06-46ba-a012-3dc1b4465148/Q3%202012%20Slide%20Presentation.pdf>



### 3.5 Daily Deals / Vouchers

Yipit, Deal Radar and My Cabbage have developed in the USA to transfer the value or to manage the daily deals problem of managing the deal or passing it on to a friend/group.

Sales of gift cards are estimated at £2bn with a similar amount purchased by employers £2.5bn, £4.5bn in total <sup>39</sup> £250m is estimated to be unclaimed each year.<sup>40</sup> Half the market is estimated to be plastic/E v paper.

Compared to the USA the E market is underdeveloped.

### 3.6 Points and Rewards

Points.com is a Canadian company that runs an exchange with PayPal cashout, predominately airlines, there is no UK equivalent, it has 88 participants, not all of the participants let you trade or cash out.

Tesco Points, Nectar Points, Boots advantage, Marks and Spencer are leading UK loyalty card programmes. There is no form of external change, points can be exchanged for cash type vouchers or holidays but within a strictly controlled environment. Voucher points are non transferable, they sometimes will appear on E Bay. Tesco points are a theoretical 1% of its UK 2011 turnover of £40bn, £400m value at 100% redemption.

### 3.7 Entrepreneurial opportunities E Currencies

- **Bitcoin**

Bitcoin is a challenge to existing models of currency, it is not a theoretical discussion, it is used, visible and has exchange. It also has the ultimate accolade of a store of wealth it has been stolen <sup>41</sup> Its weakness is complete lack of regulation which is inherent in its P2P model.

- Participate in the Bitcoin economy
- Bring Bitcoin into the regulated world
- Set up an E Currency but regulated and sell it to Corporates. 44 of the top 100 of the world's largest economic entities are Corporations; would they be interested in inflation free, instantly transferable, non speculative currency for international trade?

- **Security**

- Data Security – E Currencies
- Vaults for E Currencies

- **Exchanges**

- New exchanges for E Currencies in regulated environments
- Exchanges for Rewards, Points, Vouchers, Game Vouchers, Virtual Goods
- Collaborative spare capacity
- Develop portal to take economic activity out of the E and Virtual world and into more recognised exchanges

<sup>39</sup> Gift Card and Vouchers Association [http://www.ukgcva.co.uk/downloads/factsheets/summary\\_2011.pdf](http://www.ukgcva.co.uk/downloads/factsheets/summary_2011.pdf)

<sup>40</sup> <http://www.bbc.co.uk/news/uk-17644528>

<sup>41</sup> <http://www.bbc.co.uk/news/technology-19486695>

## 4.0 Social Currencies

### 4.1 Money is not your only Currency

Money is not your only currency. Your electronic reputation has currency, your time is a currency, you can swap/lend your assets and use them as currency. You can set up a local currency.

### 4.2 Electronic reputation

Your electronic reputation across all forms of social media can be assessed by reputation indices such as Peer Index or Klout. You then get access to deals/perks dependent on your ranking.

Credit scoring and fraud analysis companies have just started in using this data; some peer to peer lending platforms use it as an indicator as well. Klout and Peer Index give deals on a similar basis to Groupon. Companies buy Klout/ Peer Index data and datamine it for influencers, supposed influence nodes in a social network and offer them deals hoping they promote their products.

Kred and Empire Avenue are similar systems. Empire Avenue lets you buy shares in your own or other person's reputations these go up and down and can be cashed in for Eaves the virtual currency, purchasing the virtual currency allows you to unlock further parts of Empire Ave so you can promote your reputation, you cannot exchange or trade your Eaves outside of the game.

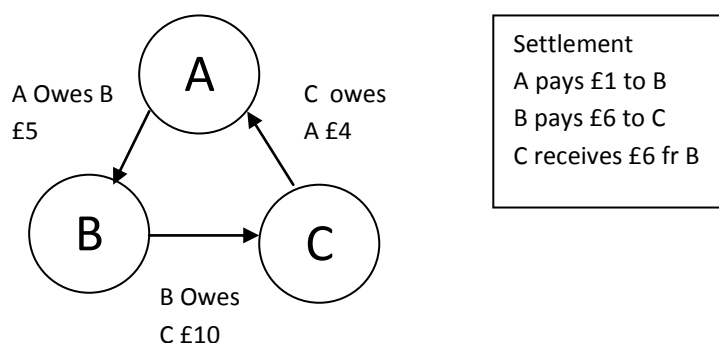
This whole area of electronic reputation is only going to grow. Empire Avenues monetisation by using shares and virtual is highly innovative.

### 4.3 Open Source – Exchanges

#### 4.3.1 RipplePay

Ripple <https://ripplepay.com/> is a decentralised open source P2P payments system with a clearing mechanism. Its wiki can be found here <http://ripple-project.org/Main/HomePage>.

If A owes B £5 but C owes A £4 and B owes C £10



It gets much more complex than this when there are multiple transactions this illustrate the principle of clearing (sorry for simplistic guide).

The core open source system has been used in two other applications:

Village's collaboration network <https://villages.cc/>

Multiswap – Barter/Exchange network <https://www.multiswap.net/login/>

#### 4.3.2 Timebanking

Timebanking is a system where you as an individual give your time, i.e. skillset to a particular objective; you build up a credit of hours and can draw on the network to use your credit of hours by other persons giving you their time... Timebanking can be

- P2P person to person
- Person to Agency
- Agency to Agency

There are over 250 timebank systems in operation in the UK and details can be found on <http://www.timebanking.org/about/what-is-a-timebank/> Time banking is mainly used when a group of like minded individuals want to combine to achieve a social/ community goal, it is also used by Charitable and Government Social agencies to deliver social and community goods.

An interesting concept in the insurance field is that you give up your time as a carer to a timebank then after retirement when you need assistance you can draw upon the credit you have built up.

#### 4.4 Social / Collaborative Exchanges

Swaptree - <http://market.swap.com/> Swap Ebay type exchange to Swap goods

Crashpadder - <http://airbnb.crashpadder.com/> now owned by Airbnb – rent out your spare room for a night.

Park at my House <http://www.parkatmyhouse.com/uk/> Rent out your front drive so someone can park their car

Ecomodo <http://ecomodo.com/> lending website

Gocarshare <http://gocarshare.com/> give lifts to other persons

Houseswap for Holidays <http://www.homebase-hols.com/>

Transport exchange is an exchange where transport companies put up unused capacity on to the, i.e. return journeys and receive bids for transporting loads <http://www.transportexchange.co.uk/>

There's a good collaborative consumption site entrepreneurs discuss their collaborative consumption ideas at <http://www.collaborativeconsumption.com/the-movement/cc-pioneers-and-protagonists.php>

In financial markets sharing and pooling are not new concepts at all. Insurance is the prime example, stock lending is another. Maybe a closed loop exchange for stock lending from individual shareholders to hedge funds? Selling of excess insurance syndicate reinsurance capacity ?

#### 4.5 Barter

Bartercard <http://www.bartercard.co.uk/home> with mobile option is more of a commercial barter network you subscribe to.

Active International is a 20 year plus established company who buys your stock in return for media space and other corporate value items. <http://www.activeinternational.co.uk>

Another example of media bartering is <http://www.miroma.com/barter.html>

Barter was at the heart of the development of the great financial markets of London, New York and Frankfurt but the open exchange concept seems to have got lost.

For personal bartering there a thriving number of UK websites examples are Barter Buddies.com, U Exchange.com, Tradeurtrade.co.uk

An alternative currency has been set up to meet the needs of this market – Favabank <http://www.favabank.co.uk/>

## 4.6 LETS - Local Exchange Trading Systems

LETS are local exchanges and complementary currencies a full list of the UK LET's schemes can be found on <http://www.letslinkuk.net/> it covers c300 schemes with approx 30,000 members. The schemes tend to be community based and issue a community currency that can be used amongst a series of local retailers and service providers, the objective is to simulate local enterprise and economic development.

Some of the strongest LETS are:

- Brixton Pound used amongst local retailers in and around Brixton, they use an E currency based on SMS Text system, payable in 92 locations and c100 local council employees have agreed to be paid partly in Brixton Pounds. Although small scale at present it is an exemplar of what can be achieved. <http://brixtonpound.org/>
- Totness Pound was one of the earliest innovations in local currencies it is accepted at 70 locations in the town but is small with only £6,000 worth of notes in circulation
- Bristol Pound is connected with Bristol Credit Union and operates a TXT based banking and payment solution and is accepted in c342 locations according to their website.
- WIR is an alternative currency sent up in the 1930's in Switzerland it has 65,000 members predominately amongst SME's, recently its has moved towards more normal business banking models. <http://www.wir.ch/>

## 4.7 Entrepreneurial Opportunities – Social Currencies

### Social Currencies

#### Electronic and Social Influence

- **Big Data** – combine traditional data mining techniques with influence monitoring scores to identify influence nodes or clusters – use this data in marketing campaigns
- **Social Media influence** in Financial Services marketing. Lady GAGA and the like case studies, use the underlying techniques to understand the new landscape of marketing to the world where you BYOD (Bring your own device)

#### Open Source Exchanges

- Ripple is a new P2P (Peer to Peer) collaborative banking/credit exchange model Implement it into commercial markets and extend its social use.

#### Timebanking

- In a commercial organisation timebanking could be a powerful collaboration tool. It is already used for creating flexible working patterns but only rarely for working between groups. Develop time banking modules for systems such as Huddle and Yammer and implement them throughout your supply and customer value chain
- Allow employees to participate in the UK's well established timebanking programmes
- Set up your own timebanking system to achieve a social goal

#### Social Collaborative Exchanges

- Reintroduce collaborative exchanges back into FS markets
- Make financial market collaborations such as stock lending available to individual investors

#### Barter

- Business - bring back off market barter back onto visible transparent financial exchanges, i.e. Hotel rooms, telecom network capacities, airline, theatre seats.
- Personal – Develop an Ecurrency for trading between the personal barter exchanges worldwide.
- Use barter sites as a supply source for exporting goods between continents (This is done for clothing but could be extended or an exchange developed to facilitate these trade flows)

## 5.0 Sources

<p>Web sites of the companies listed in the report</p> <p>Press releases and press reporting on their web sites</p> <p>Web Sites of any of the companies/ organisations mentioned.</p> <p>Twitter</p> <p>Venture Beat</p> <p>Financial Times</p> <p>Duedil</p> <p>All things D</p> <p>Mashable</p> <p>Tech Crunch</p> <p>SEC Edgar</p> <p>Companies House</p> <p>Seedtable</p> <p>GigaCom</p> <p>Techradar</p> <p>Yahoo - Finance</p> <p>Reuters</p> <p>Startups.alltop</p> <p>WJ.com</p> <p>Reuters.com</p> <p>Bloomberg</p> <p>Forbes.com</p> <p><a href="http://www.inc.com">www.inc.com</a></p> <p>Innotribe start-ups</p> <p>Finnovate</p>	<p>HMRC</p> <p>Huffington Post</p> <p>Forbes</p> <p>BBC</p> <p>Technology review</p> <p>Pinterest</p> <p>Crunch Base</p> <p>Google</p> <p>Facebook</p> <p>Linkedin</p> <p>Long Finance</p> <p>Tech Crunch</p> <p>CNET News</p> <p>Engadget</p> <p>Wired</p> <p>ZD Net</p> <p>eWeek</p> <p>Hacker News</p> <p>Wikipedi</p>
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**Electronic Money Institutions - FCA Register 3 November 2012**

## Appendix 1

Name	Trading Name		Web	FRN
COSTA Card	Costa Coffee Club/ Costa Gift Card		<a href="http://www.costa.co.uk/whats-new/gift-card/">http://www.costa.co.uk/whats-new/gift-card/</a>	
Park Card Services Ltd	FlexEcash - Card loaded gift vouchers for retailers £77m loaded since launch - Park Group Plc	Ireland	<a href="http://www.highstreetvouchers.com/">http://www.highstreetvouchers.com/</a>	900016
Prepaid Services Company Ltd	Paysafe Card - prepaid loaded card Paysafe Card Group Vienna Acquired by Skrill (Moneybookers) for Euro 140m	EU	prepaidservicescompany.com	900021
Blackhawk network (UK) Ltd	Prepaid Card provider - Gifts and MC	EU	<a href="http://www.blackhawknetwork.com/about-us">http://www.blackhawknetwork.com/about-us</a>	900023
Click & Buy International Ltd	Click & Buy - Subsidiary of Deutsche Telekom, billing to Telecom bill.	EU	clickandbuy.com	900024
Starbucks Card Europe Ltd	Gift and reward card, mobile payment option, barcode scanning		<a href="https://starbucks.co.uk/card">https://starbucks.co.uk/card</a>	900026
Commonwealth FS Bank Ltd	Eupay group Ltd, MI-Distribution Ltd - Zipp Cards		<a href="http://www.commonwealthfs.org/index.php">http://www.commonwealthfs.org/index.php</a>	
Modern Finance Ltd	In stealth not yet trading	EU	modern-finance.co.uk	900028
PPRO Financial Ltd	PPRO Payment Services Ltd, Mr Cash Wallet Solutions Ltd	EU	<a href="http://www.pprofinancial.com/ppro.php#company">http://www.pprofinancial.com/ppro.php#company</a>	900029
Boku Account Services Ltd	Available via Mobile operator bill to mobile bill		<a href="http://www.boku.com/consumers/">http://www.boku.com/consumers/</a>	900030
iCheque network Ltd	One off voucher to make epayments	IRE	<a href="http://www.icheque.com/index.php">http://www.icheque.com/index.php</a>	900032
Think Money Ltd	MasterCard Debit Card and money management advice as well as insurance and mortgage sales 100,000 accounts		Thinkmoney Ltd	900033
Prepaid Financial Services Ltd	Spark prepaid Mastercard, Payroll and travel money solutions, instant issue cards, card sharing, Man City Card doubles as a ground access Card	FR, Spn	prepaidservicescompany.com	900036
Smart Voucher Ltd	Ukash - Cash Voucher to pay on line	EU	<a href="http://www.ukash.com/uk/en/home.aspx">http://www.ukash.com/uk/en/home.aspx</a>	900007
Contis Financial Services Ltd	G-T-P Financial Services Ltd Full prepaid Mastercard and Visa issuer, with complete suite of prepaid offerings, Card, Loyalty, gifts, Mobile, P2P,	EU	Contisgroup.com	900025

American Express Advanced Services Europe Ltd	American Express Service		Worldwide Card Issuer	
One Stop Money Manger Ltd	OnLine Vouchers EU - Merchant Services Ltd Malta	EU	OnLine-VouchersEU	900044
Oxygen8 Money Ltd	Phone based services Company with cash to send international transfer brand, white label wallet and card solutions, bases in USA, Africa.		Oxygen8.com	900049
Wire Card Solutions Ltd	Tuxedo MoneyPlus Ltd, Quantum Marketing (UK) Limited		Wirecard.com	900051
	Wire card German Group with Banking Licence, offers white label software solutions for E Banking and Pre Paid cards and runs Wirecard prepay solutions in five countries 9.4bn processed in 6months to June 2012. In UK Tuxedo Card			
Moneybookers Ltd	(Moneybookers) now Skrill Large UK/worldwide payment processor to agents network.	EU	<a href="https://www.moneybookers.com/app/">https://www.moneybookers.com/app/</a>	
APS Financial Ltd	Pre Paid card issuer using Master Card	EU	<a href="http://www.apsgroup.com/default.aspx">http://www.apsgroup.com/default.aspx</a>	900002
PayWizard Plc	MGt Plc Payments platform aimed at media and content VOD	EU	paywizard.com	900004
Vincento Payment Solutions Ltd	emoney s.r.o. WIMCOMPARATOR Ltd, Wallet, Contactless, Mobile solutions via Moneto.co.uk. Kalixa Prepaid MC solution <a href="http://www.kalixa.com/">www.kalixa.com/</a>	EU	<a href="http://moneto.co.uk/moneto/">http://moneto.co.uk/moneto/</a> <a href="http://www.vincento.co.uk/en/about_us.aspx">http://www.vincento.co.uk/en/about_us.aspx</a>	900005
Voice Commerce Ltd	Cashflows, Voice Signature, VoicePay, Voice Transact, CashFlows Account, Perpetual Payments OnV. Voice recognition of customers - voice signatures to approve transactions, Aggregated accounts solutions. Prepaid cards	EU	<a href="http://www.voicecommercegroup.com/news/index.php?page=moneybox">http://www.voicecommercegroup.com/news/index.php?page=moneybox</a>	
Google Payment Ltd	Google Checkout	EU	<a href="https://support.google.com/wallet/bin/answer.py?hl=en-GB&amp;answer=105653&amp;topic=1711146&amp;parent=1656905&amp;rd=1">https://support.google.com/wallet/bin/answer.py?hl=en-GB&amp;answer=105653&amp;topic=1711146&amp;parent=1656905&amp;rd=1</a>	900008
Euronet Payments & Card Services Ltd	RIA Financial Services Ltd Full network payment provider network, 17k ATM, money T 200k points, pre paid and ecash	EU	<a href="http://www.euronetworldwide.com/our_company/our_company_home.cfm">http://www.euronetworldwide.com/our_company/our_company_home.cfm</a>	900009

Prepay Technologies Ltd	PrePay Solutions, Wonga.com Ltd, Edenred Bulgaria AD, Edenred Greece, Ericsson Money Services AB Joint company between Edenrd and MC to issue prepaid cards	EU	<a href="http://www.edenred.co.uk/">http://www.edenred.co.uk/</a> <a href="http://www.prepaytec.com/">http://www.prepaytec.com/</a>	900010
PSI Pay Ltd	Prepaid Card from current a/c, current a/c, virtual Mastercard, Iphone App	EU	psipay.com	900011
Optimal Payments Ltd	Neteller (UK) Ltd Ntbank, Net++	EU	optimal payments plc	900015
PPPay Ltd	Payment by email, escrow a/c for auction purchases		<a href="https://www.pppay.com/index.php">https://www.pppay.com/index.php</a>	900041
Nochex Ltd	Nochex, credit card processor & aggregator, secure web payments.		nochex.com	900046
Squidcard Ltd	Squid, preloaded card for Schools, local authorities, local transport		squidcard.com	900048





































































## Appendix 2 Fintech Payment Innovators - Europe

Country	Europe			UK		
	Sector	Name	Total \$'000	Sector	Name	Total \$'000
	E & Mobile Cash	Cardswithme	200	E & Mobile Cash	Erply	2,007
		Digicash	200		Handpoint	2,000
		IND group	250		Ixaris	4,500
		izettle	46,700		Luup	1,000
		myorder	200		mPowa	5,000
		Sumup	20,000			
	E & Mobile Cash Total		67,550	E & Mobile Cash Total		14,507
	FX Money transfer	Currencyfair	2,100	FX Money transf	Currency Cloud	10,520
					Kantox	217
					Transferwise	2,600
	FX Money transf Total		2,100	FX Money transf Total		13,337
	Payments	Holvi	360	Payments	Flattr	2,080
		leetchi	7,850		GoCardless	1,500
		paycento	200		m2cash	200
		Scred,	50		Payumi	800
		The Fish Pool			Ukash	14,400
	zoomit	200				
	Payments Total		8,660	Payments Total		18,980
<b>EUR Total</b>			<b>78,310</b>	<b>UK Total</b>		<b>46,824</b>
				IPO	Monetise	674,000
				IPO - on hold	Shrill Moneybookers	600,000
	<b>Grand Total</b>		<b>78,310</b>			<b>1,320,824</b>

## Appendix 3

### Current Accredited Payment Intermediaries

Below is a list of Payforit Accredited Payment Intermediaries who are connected to the mobile billing facilities of the respective networks.

Accredited Payment Intermediary	Contact		Accredited on				
							
<b>Bango.net</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Boku</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Danal</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Dialogue Communications</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Ericsson IPX</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>ImpulsePay</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>24GMedia</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Mach</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>mBlox</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Mobile Interactive Group</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>OpenMarket</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Netsize</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Oxygen8 Communications</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>IMI Mobile</b>	<a href="#">web</a>	<a href="#">email</a>					
<b>Zong</b>	<a href="#">web</a>	<a href="#">email</a>					

#### Appendix 4 World Payments Report – Innovation Areas

		Value Propositions	Description
RETAIL	1	'Be' the Money <i>Virtual Currency</i>	<ul style="list-style-type: none"> <li>Create your own currency in a virtual world (e.g., gaming) for closed-loop payments and align to real world currency</li> <li>Example: MintChip by the Royal Canadian Mint, Other emerging digital currency / Social currency, Bitcoin</li> </ul>
	2	'Lend' the Money <i>Money Lending</i>	<ul style="list-style-type: none"> <li>Bundle payments with lending and account services such as Escrow (wholesale), P2P, Micro-finance</li> <li>Examples: M-Pesa, Grameen Bank, Kiva</li> </ul>
	3	'Change' the Money <i>Currency Conversion</i>	<ul style="list-style-type: none"> <li>Focus on currency conversion, such as money changing, remittances, and changing to virtual currency</li> <li>Examples: Western Union, MoneyGram</li> </ul>
	4	'Store' the Money <i>Prepaid Cards</i>	<ul style="list-style-type: none"> <li>Create prepaid products and leverage of 'liability base' brought in through quality payment services</li> <li>Examples: Starbucks Mobile Application, Google Wallet, Boku+MasterCard, Greendot – Prepaid Cards</li> </ul>
	5	'Move' the Money <i>Money Transfer</i>	<ul style="list-style-type: none"> <li>Make online / off-line payment easy through any payment instruction mode such as plastic, mobile, or NFC</li> <li>Examples: M-Pesa, iDEAL, Citibank Digital Wallet, Starbucks, Pulse+OboPay, Boku+MasterCard</li> </ul>
COMMON	6	'Analyze' the Money <i>Payment Analytics</i>	<ul style="list-style-type: none"> <li>Focus on information presentation, e.g., cash forecasting for corporates, and personal finance management for retail with insights drawn from use of analytics. Examples: Bank of America Merrill Lynch CashPro, Intuit, Amex PAYVE-Spend IQ</li> </ul>
	7	'Secure' the Money <i>Security Services</i>	<ul style="list-style-type: none"> <li>Focus on security of payment processing such as AML checks, PCI-DSS compliance, fraud management, e-locker for digital storage, and provide 'Trust services'; Example: SWIFT</li> </ul>
	8	'Process' the Money <i>Payment Processing</i>	<ul style="list-style-type: none"> <li>Processing payments including origination, settlement and reporting (most commoditized value space)</li> <li>Examples: Banks, iDEAL, SWIFT, Pulse+OboPay</li> </ul>
CORPORATE	9	'Risk' of Money <i>Risk Management</i>	<ul style="list-style-type: none"> <li>Manage the different types of payment risks such as counterparty, liquidity (including intra-day), foreign exchange, and settlement</li> <li>Examples: Deutsche Bank – FX4Cash</li> </ul>
	10	'Time' the Money <i>Information VAS</i>	<ul style="list-style-type: none"> <li>Real-time visibility into payments (balance and transaction) across treasuries and client organization components</li> <li>Examples: Bank of America Merrill Lynch CashPro</li> </ul>
	11	'Match' the Money <i>Trade/Supply Chain Management</i>	<ul style="list-style-type: none"> <li>Matching invoices and supply chain information with money flow to provide value-added services</li> <li>Examples: E-Invoicing (Tieto, Nordea, Bottomline Technologies), American Express OPEN AcceptPay</li> </ul>
	12	'Manage' the Money <i>Treasury Management</i>	<ul style="list-style-type: none"> <li>Drive more value out of money through visibility, investment propositions, and liquidity solutions (pooling, balancing)</li> <li>Examples: Travelex Global Business Payments, Bank of America Merrill Lynch – Electronic Bank Account Management (eBAM)</li> </ul>

**Appendix – 5 Electronic Money Association – Membership – E-MA.org**  
**(Hyperlink should be live)**

Advanced Payment Solutions Ltd  
American Express  
Blackhawk Network Ltd  
Boku Inc  
Citadel Commerce UK Ltd  
ClickandBuy International Ltd  
Cornèr Banca SA  
Eastnets Remittance Company Ltd  
Emoney, s.r.o.  
Envoy Services Ltd  
Euronet Worldwide Inc  
Ewire Danmark A/S  
Google Payments Ltd  
iCheque Network Limited  
IDT Financial Services Limited  
Ixaris Systems Ltd  
MasterCard International  
Moneybookers Ltd  
National Australia Group  
Neteller UK Limited  
Newcastle Building Society  
PayPal Europe Ltd  
PayPoint Plc  
Paywizard  
PPRO Financial Ltd  
Prepaid Services Company Ltd  
PrePay Technologies Ltd  
PSI-Pay Ltd  
R. Raphael & Sons plc  
Securiclick Limited  
Telefonica UK Financial Services Ltd  
Ticket Surf International  
Transact Network Limited  
Ukash  
Vincento Payment Solutions Ltd  
VoiceCash Bank Ltd  
Wave Crest Holdings Ltd  
Wirecard AG  
Yandex.Money