*İstanbul Ticaret Üniversitesi Girişimcilik Dergisi Yıl:1 Sayı:1 Bahar 2017/1 s.1-25*

# IMPORTANCE OF KNOWLEDGE EXCHANGE BETWEEN ACADEMIA AND ENTREPRENEURS: MOBILE BANKING AND E-MONEY*

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**ABSTRACT**

*This paper reflects on the experience of Knowledge Exchange (KE) and consultancy project which took place between a Law School, France Telecom-Orange Plc. and Frost & Sullivan. It is argued that academic opinion and university communities are essential and invaluable in investment and entrepreneurship initiatives particularly in jurisdictions where there is very little or no legal certainty (e.g. Mobile Banking requirements in many developing countries) and reliable information. Furthermore, the academia can provide good value and sound advice on effective risk management, compliance and ethics, all of which enhance the corporate social responsibility as well as the comparative advantage of an entrepreneur.*

***AKADEMİK DÜNYA VE GİRİŞİMCİLER ARASINDA BİLGİ ALIŞVERİŞİNİN ÖNEMİ: MOBİL BANKACILIK VE E-PARA***

**ÖZ**[1]

*Bu makale, Bristol Hukuk Fakültesi, Fransa Telekom ve Frost & Sullivan ortaklığıyla yapılan bilgi alışverişi ve danışmanlık projesinde edinilen deneyimler üzerine yazıldı. Bu deneyimler ışığında, makale akademik fikirler ve üniversitelerin özellikle hukuksal belirsizliklerin çok ve güvenilir bilgilerin az olduğu ülkelerde (Örn. Gelişmekte olan ülkelerdeki Mobil Bankacılık mevzuatı), yatırım ve girişimcilikte ne kadar gerekli ve paha biçilemez olduğunu ortaya koydu. Ayrıca, etkili risk yönetimi, hukuksal uyum ve etik kurallar çerçevesinde akademinin, kurumsal sosyal sorumluluk ve karşılaştırmalı üstünlükte girişimciye kazandırdıkları ele alındı.*

**Key words:** Knowledge exchange, innovation, legal academia, mobile banking, e-money

* Geliş Tarihi: 02.01.2017 - Kabul Tarihi: 01.06.2017
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*"It is the set of the sails, not the direction of the wind that determines which way we will go."*

*Jim Rohn*

## Introduction

The increasing use of mobile phones (ITU, 2011)[2] means that the number of mobile phone users may exceed the number of banked people in the countries (Egypt, Jordan, and the Ivory Coast) examined in this KE and consultancy project. Mobile phone technology can offer a communications channel for e-commerce and on-line transactions (e.g. e-money, e-payments and mobile banking).[3] This channel may not only reduce the cost of financial transactions for the provider and customer but also allow new entrants to the financial sector. According to a study conducted by Visa and others, people are more likely to carry their mobile phone than carrying cash for transactions. According to the recent Global Mobile Consumer Survey (GMCS), the consumers in the USA alone look at their devices over 8 billion times a day in the aggregate. While these changes hold the prospect of revolutionising the access and conduct of e-commerce, financial services and the nature of business transactions on the back of the mobile phone infrastructure it also creates potential risks (such as contractual obligations, fraud, money laundering, revenue leakage, etc.) both for the service providers and users. It was reported that whilst telecommunications sector have generated $920bn in 2011 alone and the global revenue made from telecom services is expected to reach over €1.2 trillion in 2018 (Statistical Portal 2016), it is also losing $58bn a year worldwide owing to fraud and errors (BBC News, 2012). This is why a regulatory framework with normative and qualitative requirements (for example licensing of e-money institutions, specific consumer protection rules, user policy) shall be established.

This paper explains the consultancy and KE project, which involved a Law School and a major multinational telecom company. We, the Law School, provided our expertise in risk assessment and compliance in legal landscapes where activities of mobile banking would likely to operate if a company was to establish and provide such services in Jordan, Egypt and Ivory Coast.

Accordingly, the following questions were considered:

[2] It is reported that there are 5.9 billion mobile phone users in the world and 79% of this attributed to the developing world.

[3] It is estimated that e-payment via mobile phones alone will exceed $240 billion in 2011 and could be over $1 trillion by 2015!

- Do the mobile banking and e-money activities constitute a banking service which falls within the regulatory environment in the Ivory Coast, Arab Republic of Egypt and Jordan?
- If not, what are the legal requirements and responsibilities?
- What are the compliance requirements in light of the legal instruments in company's domiciled/registered jurisdiction?

This was a unique KE project because it brought together a powerful combination of business experts (Frost & Sullivan), legal experts (Law School) and the industry (France Telecom-Orange Plc.). As part of this project, the academic legal team not only imparted with existing research findings but also had to conduct new research in unfamiliar jurisdictions, learn about business interests and priorities as well the limits of technology and governance structures in different countries.

Each new market where investment and establishment of mobile banking would take place was analysed separately as it transpired that each market had a unique set of regulatory and socio-legal framework which in turn required different risk assessment and compliance procedures. Our findings were not only incorporated into the investment enterprise in order to acquire the necessary banking licences in these countries but also informed the global anti-fraud and risk policy of this company in over 80 countries.

Facilitation of the KE activities (Schlierf and Meyer, 2013).[4] took place during semi-formal meetings, sometimes in structured workshops as well as in formal management meetings at the highest level. While the dissemination of the final findings was done in a creative, media based, simple language which could be understood by all the employees across the globe, the initial information and data were kept confidential as a business secret asset.

The actual and potential impact of this project on the socio-economic development of the society is still unfolding in Africa and the future prospects are very exciting.

Knowledge exchange (KE) and knowledge transfer (KT) between university and private, public and civil society sectors have become part of most academics' work profile and contribute not only to the civic leadership and public engagement of universities in general but also to entrepreneurship and innovation of new technologies (Saad and Zawdie, 2011). Given the current

[4] Schlierf and Meyer refer to such activities as 'knowledge inter-mediation' whereby we, the Law School, acted as knowledge brokers as well as legal experts.

global economic crisis, establishing sustainable and balanced economic growth is the most pressing challenge facing all countries in the world. In order to achieve and sustain economic and social development, university research and KE & KT activities are encouraged by government policies. In tandem with this trend, research funding councils and other sponsors emphasize the importance of such exchanges and provide specific funding opportunities for KE and KT activities.[5] In their funding calls, they require applicants to articulate how they envisage their knowledge and research would have an impact beyond academia (e.g. beyond academic publications and teaching) and how it would benefit wider society. In response, many universities have embedded "knowledge exchange" activities as a strategic priority (Sir Witty, 2013).

The recognition of the fact that universities enhance socio-economic development, innovation (Etzkowitz and Leydedorff, 2000) and comparative advantage goes beyond government and public funding bodies. The economic impact and contribution of the UK universities as a whole was estimated as £59 billion (or around 4 per cent of GDP) in 2007/08 by the University of Strathclyde, on behalf of Universities UK (Universities UK, 2014) – a figure equivalent to around £69 billion today. In addition, the World Economic Forum (WEF) ranks the UK fifth in the world, and second in the European Union, in terms of university-business collaboration in research and development (Schwab, 2013).

The forms, methods, scale and focus by which universities contribute to the (local, national and international) societies they serve vary, yet these often include employment, provision of skills, creation and transfer of knowledge, working with companies and other partners of all sizes, purchase and supply of a range of products both directly and through staff and students, facilitation of communication, attracting inward investment, alumni networks, civic leadership, hosting business incubators, etc. In other words, economic engagement is the common thread found in most universities.

Legal practitioners and businesses also value the knowledge and wisdom possessed by academic lawyers and consequently, they utilize such expertise in the form of consultancy, continuing professional development and training activities. In return, universities value such partnerships because through such work not only their theories and research findings can find meaning and

[5] For example, Economic and Social Research Council (ESRC) in the United Kingdom provides a 'Knowledge Exchange Opportunities Scheme' aimed at maximizing the impact of social science research outside academia. See, http://www.esrc.ac.uk/collaboration/knowledge-exchange/opportunities/index.aspx. Similarly, a government initiative, Innovate UK also funds KT projects between universities and businesses. See, Knowledge Transfer Partnerships, www.ktponline.org.uk.

utilisation in practice but also the experience gained from KE and KT can inform teaching (Curtis, 2008 and ACLEC, 1996)[6] and allow for further critique of their discipline.[7]

Bradford opines, "knowledge exchange can be conceptualised through knowledge acquisition, assimilation, transformation and exploitation and that the process of knowledge exchange depends on 'innovative routines' or 'dynamic routines' (Bradford, 2012). Undoubtedly, the benefits of KE and KT to stakeholders are wide ranging and depend on the nature and context of each activity. However, there are generic and common intentions found in most KE and KT activities. Both the academia and non-academic partners seek to maximise the impact of their respective work on public policy, business development and professional practice and financial profits. Through collaborative work (e.g. by KE and/or KT), stakeholders learn about each other's expertise, share knowledge and gain an appreciation of different professional cultures. Such activities can also lead to a better understanding of the ways in which academic research can add value and offer insights to key issues pertaining to business, policy and practice. In addition, KE and KT provide academics with the opportunity to:

- Apply knowledge and expertise to important problems facing businesses;
- Develop relevant teaching and research material;
- Identify new research themes and undergraduate and post graduate projects;
- Publish high quality journal and conference papers;
- Gain an improved understanding of business requirements and operations;
- Contribute to the Research Excellence Framework (REF) and research impact within and outside of academia (Donovan, 2007);
- Participate in rewarding and ongoing collaboration with innovative businesses;
- Supervise and act as mentors for past graduates (*alumni*) working on business based projects.[8]

Phipps and Shapson are in the opinion that knowledge mobilisation (e.g. the processes of KE and KT) also enables social innovation (the outcome such as investment, new technology, etc) (Phipps and Shapson, 2009). While it is extremely difficult to quantify the impact of each KE activity, if extra-academic

[6] The importance of practical knowledge of the law and lawyering skills in teaching is recognised particularly in clinical legal education programmes.
[7] For example, KE activity can provide an environment (or a laboratory as the case may be) in which ideas, theories and technologies can be tested and further developed.
[8] Also see, Knowledge Transfer Partnerships, www.ktponline.org.uk.

impact is the desired outcome then knowledge exchange (KE) and associated activities might help to maximise this impact (*ibid*.). On the other hand, businesses can improve their competitiveness, productivity and performance by accessing the knowledge and expertise available within universities. By working collaboratively in a shared space, in light of mutually agreed aims and terms, research and business knowledge utilisation becomes a powerful tool for all stakeholders.

According to the World Bank (2002), "social and economic progress is achieved principally through the advancement and application of knowledge and tertiary education is necessary for the effective creation, dissemination, and application of knowledge and for building technical and professional capacity".

This paper provides a summary of the KE project involving a business consultancy firm (Frost & Sullivan), legal experts from academia (a Law School) and a multi-national corporation (France Telecom-Orange Plc.)[9] and outlines the values gained in the project. It is argued that universities and academic knowledge therein have great potential to drive forward globally competitive technological ideas into real business ventures. There is no doubt that the tools of Information and Communications Technology can equip us to address some of the most pressing social, economic and environmental challenges around the world (World Economic Forum, 2010). In this context, legal academia is a valuable tool in assessing risk of dual use (commercial and criminal) of new products and services, monitoring compliance and enhancing comparative advantage in investment and establishment of new technologies and policies in developing markets.

[9] France Telecom-Orange is one of the world's leading telecommunications operators with 172,000 employees worldwide, including 105,000 employees in France, and sales of 45.3 billion euros in 2011. Present in 35 countries, the Group had a customer base of 226 million customers at 31 December 2011, including 147 million customers under the Orange brand, the Group's single brand for internet, television and mobile services in the majority of countries where the company operates. At 31 December 2011, the Group had 167 million mobile customers and 14 million broadband internet (ADSL, fibre) customers worldwide. Orange is one of the main European operators for mobile and broadband internet services and, under the brand Orange Business Services, is one of the world leaders in providing telecommunication services to multinational companies. http://www.orange.com/en/.

## 1. Who and what we are:

Stetler *et al* (2011) opine that there are several personal attributes that are key for successful KE and innovation facilitation whereby research is implemented into practice:

- authenticity, realness and openness;
- respect and general credibility;
- accessibility, approachability and empathy;
- flexibility;
- responsiveness and reliability; and
- self-confidence.

In addition, the following domains are often taken as benchmarks for successful research and academic engagement.

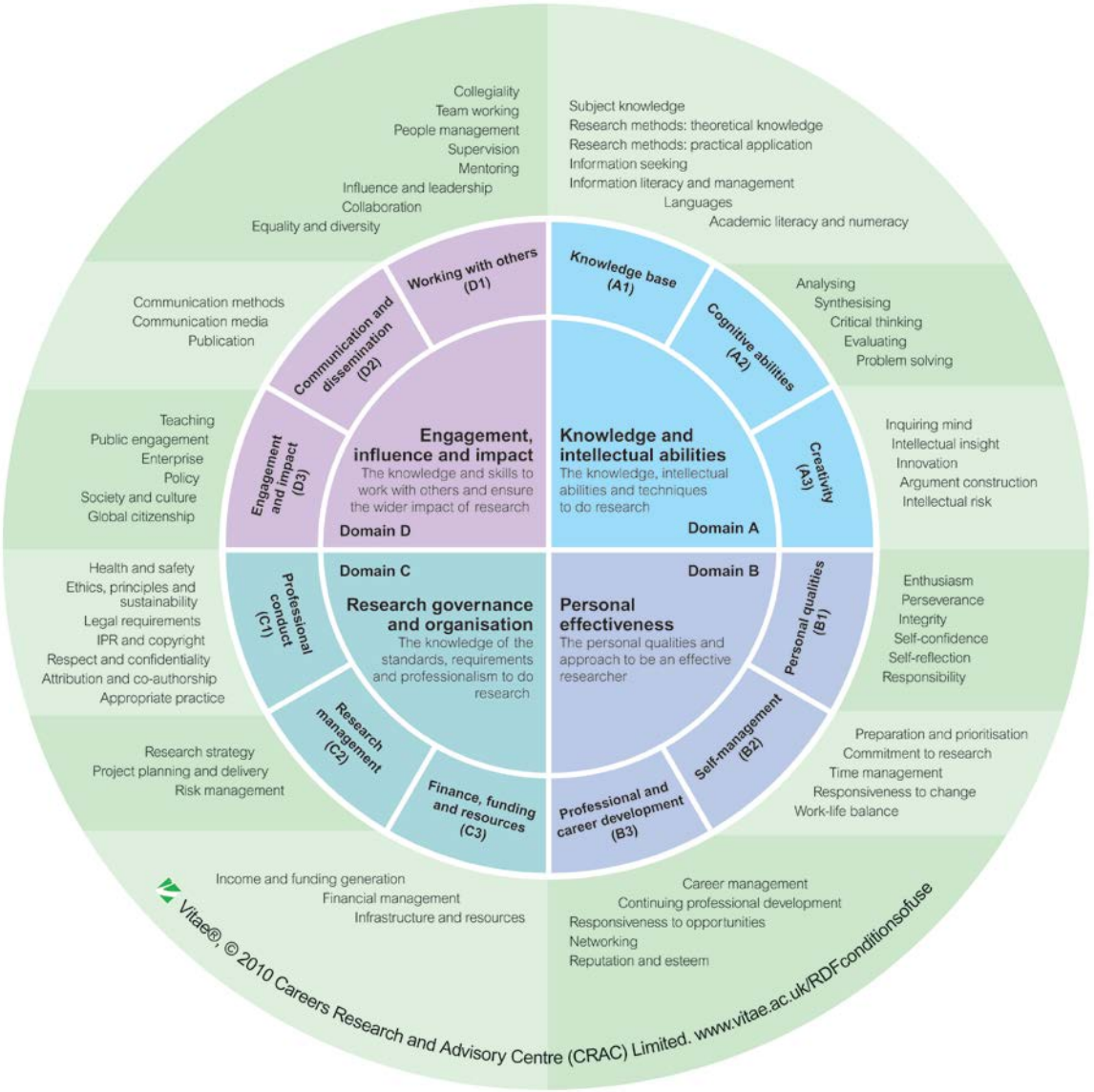


Figure 1. (Viate, 2010)

These attributes certainly came to the forefront during our KE project and were a key to successful research implementation in the context of compliance and

risk assessment within a unique global investment initiative,[10] namely mobile-banking.

While all these attributes are important in a KE activity, the most important of all has been 'self-confidence' and the ability to get in touch and seek potential partnerships. One could call this 'put yourself forward'. Without this we could not share our expertise within an actual business venture. Universities ought to actively seek and forge connections and partnerships firstly with firms and businesses in their immediate vicinity and further afield. This is what we did. We contacted the Director of Knowledge Management at France Telecom-Orange and explained our expertise and asked whether they could think of an area of their business we could contribute to. We were lucky because of the team of managers responsible for financial crime and revenue assurance were based in Bristol, the city where our university is also situated. Therefore, initial face-to-face contact and meetings were conducted with ease. The value and importance of face-to-face conversation when commercially sensitive information concerned should not be underestimated Strauss and McGrath, 1994 and 1996).[11] Face-to-face meetings allow members to engage in and observe verbal and non- verbal behavioral styles; provide human contact among members; and allow participants to develop transparency and trust among each other (Arvey, 2009).

The profile of the university as well as the past experience and achievements (track record) of the academic team involved certainly played an important role in getting the company interested in what we could offer. All members had numerous publications in the legal field concerned (banking and finance, financial crime and compliance, etc.) and were engaged in research informed teaching. However, the most important aspect in securing the consultancy was our ability to convince the company that our knowledge would have a direct contribution to business interests not only in terms of the brand but also in terms of monetary gain, compliance, risk assessment and limiting liability.

We were and are still ideally placed to carry out a central role in the development of various sectors in relation to banking, financial crime and compliance, taking forward key emerging scientific and technological

[10] For the purposes of this paper, the project could also be named as 'global innovation system'.

[11] Straus and McGrath argue that the type of communication medium is likely to affect outcomes "when there is a need for the expression of emotions, when tasks require coordination and timing among members' activities, when one is attempting to persuade others, or with task require consensus on issues that are affected by attitudes or values of the group members" and that under such circumstances, face-to-face meetings are can be more effective compared to other methods such as telephone, Skype conference call.

developments through KE with other like-minded institutions, and small and large businesses, including on an international scale. This quality comes with the ability to transfer our knowledge and expertise into other fields of inquiry and business activity. To this effect, we have formed the Financial Crime Research Network (FCRN), which consist of members both from academic and non-academic fields such as law enforcement, government, business and legal practice. The presence of this network also contributes to the publicity and dissemination of our knowledge and forging new partnerships with businesses and other stakeholders. Following the KE project and establishment of the FCRN, we have conducted several other entrepreneurial projects involving major international banks.

## 2. What we did:

While, as lawyers, we did not invent the technology concerned (mobile banking) or implement the infrastructure (telecommunications network) and provide investment in the countries where the company wanted to operate, we did enable the company to conduct an objective, analytical and critical risk assessment pertaining to their activities. The interrelated and mutually reinforcing character of our expertise in research, education and economic engagement found expression in all of the activities of this project. In other words, it was the transferability of our knowledge, which became pivotal in breaking the deal and delivering the results.

In establishing a purposive strategic relationship in a fundamentally dynamic field (mobile banking) it was agreed that the acquisition, creation and application of knowledge are a key to the competitive development of this business venture. In this case the academic quality of our work matched its practical relevance. Accordingly, we have outlined the multi-layered legal framework, which applied to mobile banking, financial crime risk and compliance in numerous jurisdictions. It is also important to note that in the countries we examined the main focus was not innovation of a new technology but to learn how to assimilate and improve the existing one in order to optimize its use whilst mitigating risks.
Our legal analysis started with international legal instruments because international law often not only sets the minimum standards for international community but also the benchmarks for compliance. Furthermore, as a multi-national corporation, the company we advised not only operates in many parts of the world but also puts a great emphasis on its corporate social responsibility. The next step was to identify regional legal instruments as the company is registered in the European Union (EU) thus relevant EU provisions which are often supreme sources of law in the Member States of the EU, had to be considered. The third issue was establishing if and what national laws applied to

this activity. Firstly, we had to consider the law in the countries in which the company has been registered. This is because in countries such as the United Kingdom (UK) and the United States of America (US) the law pertaining to financial crime has extra-territorial jurisdiction, meaning that regardless of where the company's (legal or otherwise) activities take place, the law of these countries would apply. Secondly, in order for the company to operate in Egypt, Ivory Coast and Jordan, we had to determine the legal requirements therein. While we were able to provide our readily available legal expertise and research findings in relation to international, regional (EU) and domestic (UK and US) legal instruments and their interpretation, the same could not be said for making sense of, yet alone finding legal documents in Jordan, Egypt and Ivory Coast.

In this legal maze and potentially a technical area in relation to mobile banking, we had to answer some vital questions. The first fundamental question was:

### 3. What is electronic money (e-money)?

Definition of and what constitutes 'electronic money' or 'e-money' has not been yet formally established in the jurisdictions examined here. According to the legal doctrine in Western countries 'e-money' may come in two forms:
1) 'digital cash' (computer money) which is electronic tokens that represent a value; and
2) 'stored value product' (e-wallet) which can be sim-cards with an integrated chip.

We presumed that these concepts would find expression in the target countries.

Economists consider money as anything that is accepted widely in payment for goods, used as a medium of exchange and expressed as a standard unit in which prices and debts are measured (Robertson, 1962).[12] In a 19th Century case, money was defined to mean "… that which passes freely from hand to hand throughout the community in final discharge of debts … being accepted equally without reference to the character or credit of the person who offers it and without the intention of the person receives it to consume it …"[13] In our opinion e-money meets these standards.

[12] Oxford dictionary defines money as: Any generally accepted medium of exchange which enables a society to trade goods without the need for barter; any objects or tokens regarded as a store of value and used as a medium of exchange.
[13] *Moss v Hancock* [1899] 2 QB 111, 116.

As in the E-Money Directive of the European Union,[14] there is a tendency to describe e-money as electronic retail payments. Therefore, e-money ought to be distinguished from electronic payment systems and electronic banking being already in place for many years, thereby merely covering the money transactions between the financial institutions (Winn, 1999). In light of this assertion the following characteristics of e-money was considered:

- E-money is stored on an electronic device;
- The monetary value is in principle a limited amount;
- E-money serves consumer needs;
- E-money must always be exchangeable against cash;
- E-money is designed to be used as payment mechanism in favour of a supplier for whatever goods or services, not in favour of the issuer.

Accordingly, we concluded that mobile banking service via mobile phones is a 'stored value product' (SVP) and the service provider for the mobile phone technology is the issuer in the same way that money is deposited to a bank account. In the UK and in many other European Union countries, e-money can only be issued by authorised electronic money issuers (EMIs) subject to the requirements outlined by the EU's Second Electronic Money Directive.[15] Consequently, an undertaking which provides such a service can be argued to represent a 'special purpose' or 'narrow' mobile banking service in charge of the payment mechanism and transfer of money and thus facilitates the application in principle of banking and financial services law. It is only in connection with single-purpose e-money products that e-money is to be regarded as advance payment, or prepayment, for relevant goods or services.[16] From a legal perspective mobile banking bears the characteristics of a debit card. The fundamental difference lies in the accounting system. Often, debit card activity is maintained and recorded centrally, with the bank itself whereas with e-money via mobile banking' it could be the case that the account activity is maintained and recorded on the device (mobile phone/sim-card) itself via mobile telecommunications technology. This subtle difference should make no difference in the governing legal regime as they are both guaranteed payment mechanisms (UNCITRAL, 1994 and 1996).

In the countries we looked at there was no statutory definition of e-banking or mobile banking. The lack of statutory definition of e-money can be an advantage for potential investors and telecommunications company (telco) in a new market for

[14] Directive 2007/64/EC. http://europa.eu.int/comm/internal_market/bank/docs/e-money/guidance_en.pdf.
[15] Directive 2009/110/EC of the European Union and of the Council, 16 September 2009.
[16] An example of a single-purpose product is a telephone card.

mobile banking. Because as it is the case in the countries examined here, the government or the ministry of finance often do not have the comprehensive knowledge on how these e-money systems operate and this may allow the business/telco to be part of the creation of new legislation and steer the policy development to their advantage and comply with international standards.

As we established that e-money activities fall within banking services, we then came to the conclusion that the telecommunications company had to act as a bank or find an intermediary banking institution thus be subject to banking regulations in these countries. Therefore, the next fundamental questions were:

4. **How does a telco acquire a banking license and what mode of mobile banking would be provided?**

There are two models of mobile banking/payment namely *Additive* and *Transformational Models*. *Additive models* are those in which the mobile phone is merely another channel to an existing bank account; *Transformational models* are those in which the financial product linked to the use of the phone is targeted at the un-banked, who are largely low income people.

It became clear that the model we have studied is a transformational model.

The extent to which e-money via mobile banking will in fact be transformational in a country will depend in large measure on whether the environment is enabling. In any new market, enabling environment requires a blend of *laissez-faire* legal and regulatory framework, which creates the opportunity to start up and experiment, with sufficient legal and regulatory certainty that there will not be arbitrary or negative changes to the regulatory framework, so that providers have the confidence to invest the resources necessary. Countries with low levels of effective regulation may be very open but highly uncertain, since regulatory discretion may lead to arbitrary action. Conversely, countries with greater certainty may be less open, in that the types of entity and approach allowed to start up are restricted and compliance mechanisms are taxing. Especially in a new market sector like 'mobile banking', where business models are not yet stabilised, enablement in the policy and regulatory sector means a move towards greater certainty and greater openness. We provided our advice with these considerations in mind.

The emerging models of mobile banking can be placed in various categories, based on the different roles played by the parties involved: the bank, the telco and in some cases, a third party product provider. The models vary from one in which a bank adds on a mobile channel to its existing product range, through hybrid models where a telco may bring different branding, product set and/or distribution system to

a bank-based product, to a telco-dominated model such as the one examined here in which the telco itself is responsible for the deposits taken.

Transformational model constitutes an issuance of e-money by the telco. Approaches to the regulation of e-money vary widely, from waiver or neglect as long as the maximum payment or balance size is low (e.g. Philippines), to restricting the issuance of e-money to banks only (e.g. Egypt) to the creation of an enabling framework whereby specialist e-money issuing entities can register under an appropriate supervisory framework (e.g. European Union). The recent review of the EU legal framework concluded that it has not fully achieved its desired objectives (Harbottle and Lewis, 2010).

The Egyptian and Jordanian law and policy environments were relatively more certain, but less open to non-bank entrants; the Ivorian environment on the other hand were less certain, in that a number of major pieces of relevant legislation were at various stages but had not yet been implemented, but this did not mean that certain models could not be started up.

The field of e-money payments and mobile banking is not only new and fast evolving but also sits at the overlap of several regulatory domains — those of banking, telecommunications and payment system supervisors, and financial crime and anti-money laundering agencies. The overlap substantially raises the risk of coordination failure, where legislation or regulatory approaches are inconsistent or contradictory. In such environments, it is likely that mobile banking may simply be an added channel for already banked customers. A comprehensive vision for market development between policy makers, regulators and industry players can help to define obstacles and calibrate proportionate responses to risk at appropriate times.

The main reason behind this potential risk is the fact that banking regulations have traditionally taken a different approach when it comes to prevention of crime. Banking and banking services have always been viewed as the pursuit of businesses/customers not criminals. The relationship between bank and client was thought to be underpinned by mutual trust, honesty, confidence and loyalty. Accordingly, bank monitoring and risk assessment were conducted by genteel tactics of persuasion, consensus, frankness and cooperation suitable for dealing with honest, prudent and risk-averse businessmen (Allen and Herring, 2001 cited in Pusey, 2007). Because of this trend it is argued that banking regulations have traditionally had prudential bias in order to prevent financial crisis and systemic failure. Consequently, the wide spectrum of responsibilities given to central banks via banking regulations have not focused on anti-fraud measures in relation to

mobile banking and cyber-crime activities. For example, unlike legislation in many Western jurisdictions the legislative framework in the countries examined here contain no provisions in regards to e-banking and/or related extra-territorial economic crime and other criminal conduct.

At the same time, the framework of a venture such as transformational models of mobile banking should not only focus on the risks associated with the service provider but also customers. Accordingly, customers/service users should be adequately protected against fraud and abuse in the mobile banking environment. For transformational models to emerge and succeed, the following additional principles are also necessary.

- Customer due diligence procedures for account opening should be risk-based, and not unduly prejudice remote account openings by small customers.
- Customers should be able at least to make deposits and withdraw cash through agents and remote points outside of bank branches.
- Adequate provision must be made for the issuance of e-money appropriately capitalised and supervised entities which are not necessarily banks.

The starting point is to identify the risks to which consumers are exposed. In electronic payments via mobile banking, these typically include fraud (a loss as the result of unauthorised transactions), loss of privacy (through inadequate data protection) and even loss of service. According to the Mobile Payment Forum the level of risks involved vary with the nature of the product offered. The security issues involved in customer authentication and authorisation through all the stages of wireless transmission have been considered in some depth by the main industry for a (Symantec, 2011) These are complex and fast changing.

E-money in the form of ‘airtime’ or as a commodity to purchase goods and services shares to some degree the basic characteristics of money in physical from:

- It uses a commonly accepted unit of account: it is typically denominated in currency units (not, for example, time units).
- It can be an efficient medium of exchange in societies where the financial system does not allow easy remote transfers, as in some African countries, provided that the other party can and does accept it; however, transfers are usually limited to users of the same network, limiting the value for other mobile users.

- It can be a store of value, provided (i) that the telco continues in business, and (ii) the airtime does not expire (the validity window is often short, for example a month, on pre-paid airtime).

Accordingly, on the basis of this analysis pertaining to transformational model of mobile banking, it can be asserted that e-money activity were construed as a financial and/or a banking service in the jurisdictions examined here. Subsequently, for companies registered and operating under English and other common law jurisdictions, the standard of care and skill required would be one that can reasonably be expected of persons of similar standing and competence.[17] Mutually, the customer also has duty to exercise care and skill in transmitting the instructions to avoid any mistake or facilitation of fraud[18] as well as informing the bank of any unauthorized activity.[19]

The activities involved in transformational mobile banking converge into a number of important policy areas. Each issue is uniquely complex, and is often associated with a different regulatory domain such as bank supervisor, payment regulator, telco regulator, competition regulator, anti-fraud and/or anti-money laundering authority (or a similar law enforcement agency) all of whom may at some stage be involved in crafting policy and regulations which affect this sector and its policy domain (Porteous, 2006).

The complex overlap of issues and the subsequent maze it creates runs the risk of failure across regulators. This failure may be one of the biggest impediments to the growth or success of mobile banking at least pertaining to the transformational sort (Porteous, 2006). However, even without the additional complexity introduced by e-money vis-a-vis mobile banking, many of these issues require coordinated attention in order to expand access.

The overlapping domains can be illustrated as follows:

[17] *Westminster Bank Ltd. v Hilton* [1926] 43 TLR 124.
[18] *London Joint Stock Bank Ltd. v Macmillan and Arthur* [1918] AC 777.
[19] *Greenwood v Martins Bank* [1933] AC 51 (HL). For detailed commentary.

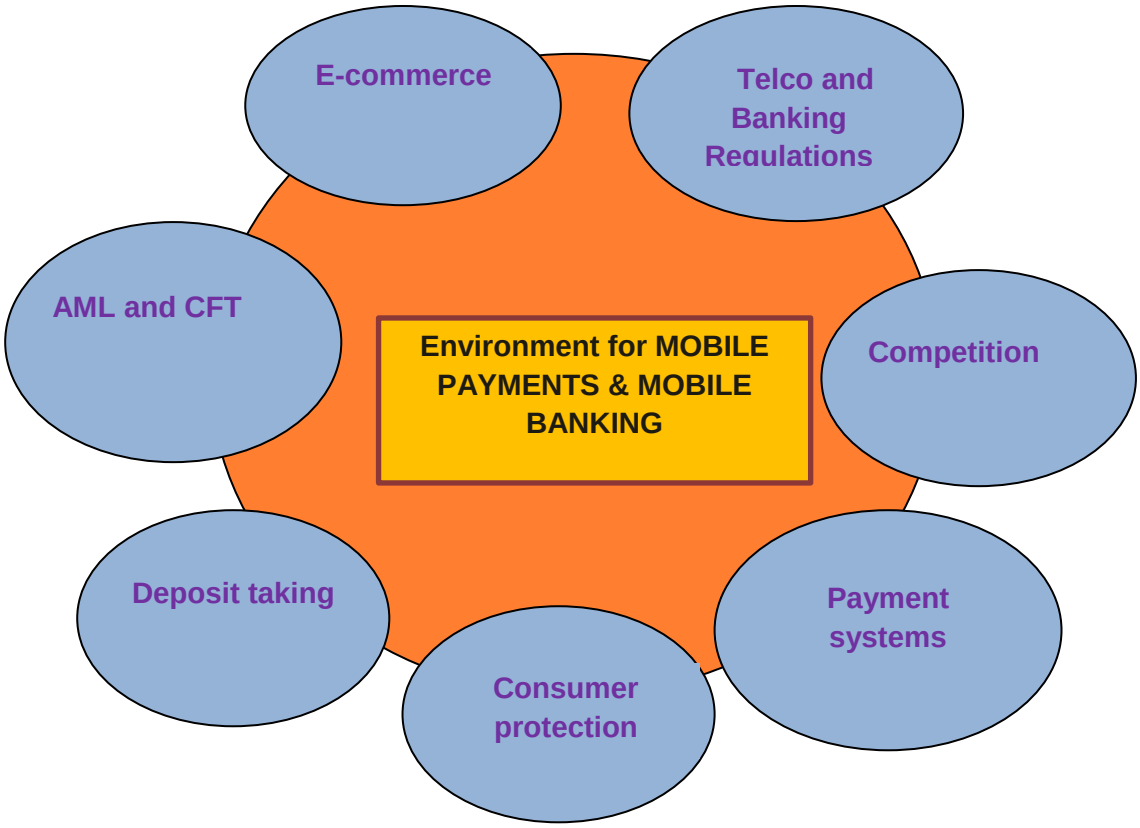


Figure 2. (Turksen, 2017)

Manoeuvring within this complex regulatory framework could not have been possible without a collaborative consultancy project whereby legal expertise, business knowhow and technical knowledge were combined in a KE activity.

## 5. Impact

The impact of this project on people's lives within the respective unique socio-economic environment in the countries examined is still unfolding therefore; one cannot quantify or determine exactly what the actual impact is. It is possible

however, to indicate what the initial impact has been both on the company, the investor, as well as the telecom sector in these countries.

Firstly, based on our academic advice, the company was able to make an informed decision and assess potential and actual legal risks in these markets. The investment enterprise also involved the consideration of appropriate business model and corresponding legal requirements. For example, Mobile Money services may have to follow different models of operation depending on its mobile market share and market context. In some countries, it is not possible to provide e-money and mobile banking without a formal (local) bank and telecom partnership.

This knowledge transfer also enabled the company to gain a competitive advantage when negotiating the contracts between the corporate France Telecom headquarters in Paris and the local Orange/FT telecommunications subsidiary and government departments to provide Mobile Money services. The value of this is impossible to determine but the research project allowed France Telecom to have a superior negotiating position dealing with contracts that were in excess of $5,000,000.

The provision of banking services to the “un-bankable” to developing countries is seen as a positive Corporate Social Responsibility objective and combined with the goal of reducing fraud and money laundering in these geographies was an important strategic priority for Orange and France Telecom. The outputs of this work contributed to these strategic goals and were also used to share this invaluable knowledge with the wider Anti-Fraud teams globally.

In addition, in light of our legal analysis, the company was able to audit and review its existing business practice and policies and subsequently determine whether any adjustments ought to be made for compliance purposes not only in these three jurisdictions but also in other countries where such service is provided. Importantly, the research project enabled wider education within France Telecom and Orange Group regarding all risks associated with money laundering and banking operations and contributed to the following corporate objectives:

1. Support new Group businesses in the implementation of Mobile Money including initiating work in other countries including Tunisia, Niger; Armenia and Uganda;

2. Managing fraud and revenue assurance cost to an acceptable level by focusing operational efforts on fraud and leakage items causing repeated costs (e.g. call reselling, roaming fraud, telesales fraud, subscription fraud, SAC

related fraud costs, leakage resulting from change management - includes governance over fraud risk acceptance);

3. Deliver savings and limit leakages (F&RA related savings); and

4. Maintaining the compliance state of France Telecom's Fraud Prevention Control Environment (the US Sarbanes Oxley compliance, the EU compliance, the West African Economic and Monetary Union, the UK and other national legal compliance requirements).

Following our project, the company has created a product known as 'Orange Money' or "Orange Money Account'. Currently, France Telecom-Orange provides this service in 13 countries (Botswana, Cameroon, Côte d'Ivoire, Egypt, Guinea, Jordan, Kenya, Mali, Madagascar, Mauritius, Niger, Senegal, and Tunisia) with 13 million users, whereby in 2014 the total of transactions conducted via 'Orange Money' amounted to more than 4.5 billion euros (Orange, 2014).

Mobile banking was first launched in the Ivory Coast in December 2008 and since then it has been made available in West and North Africa (e.g. Botswana, Cameroon, Kenya, Madagascar, Mali, Niger, Senegal, Egypt, and others). Following the company's decision to invest and roll out the mobile-banking technology, Egypt became one of the first countries in North Africa to launch 3G mobile services and the Egyptian government has issued licenses for telecom companies providing banking services and other financial services enabled on the back of this technology (BUDDE, 2016a).[20]

The growth and success of this service are particularly impressive in Ivory Coast (incidentally, a country where there is a large number of people without access to a bank). The mobile banking services have been provided in cooperation with BNP Paribas, through its local subsidiary BICICI.

Jordan on the other hand has chosen to regulate e-banking via its banking regulations. Tackling one of the largest impediments to e-commerce development in Jordan and the Middle East in general, the Central Bank of Jordan's has adopted a strategy for 2013 - 2017 to develop the legal framework and infrastructure for all e-payments systems in Jordan (BUDDE, 2016b).

Jordanian government's initiative to develop an e-payment infrastructure coincides with a rollout of Near Field Communications (NFC) mobile payment

[20] Despite on-going social and political unrest in Egypt since the Arab-Spring, the telecom market has been growing at an unprecedented rate.

terminals across Jordan by MasterCard and a number of partners (BUDDE, 2016b). Both activities operate on the back of telecom technology, which enable mobile banking and transactions.

There is no doubt that our work has influenced corporate decision-making and policy and subsequently has had an impact on the implementation of new technology and services. Furthermore, in some instances our work has contributed to (informing) government policy. In these contexts, it is not possible to quantify the impact. However, in light of the evidence of increase in the use mobile banking in the countries examined, we can assert that we have contributed to the socio economic development as well as capacity building of SMEs, and people without banking facilities.

*"Universities generating cutting edge research and resulting insights may be likened to the tip of an arrow, with the arrowhead behind it representing the economic activity enabled by research-led innovation."* (Sir Andrew Witty, 2013)

Lastly, it should be noted that the experience and knowledge emanating from this project have been fed into our teaching. It is one thing to present your students with case studies involving others in order to explain law and its practice, and it is another thing and better methodology to be able to talk about law from a personal experience. The ability to present the law and legal concepts away from books enrich learning experience thus contribute to one of our main provisions; teaching and learning.

## 6. Recommendations

Following our consultancy work, it has become apparent that a conscious and directed investment in KE is necessary. Such investment needs to be provided by and coordinated between three key stakeholders: the government, the Higher Education Institutions, and the businesses. In other words, government support, institutional support and business support are exclusively important in not only getting a KE activity going but also in enabling a KE activity have success and impact.

Once a supportive environment is created, academia can engage with KE and KT more effectively. However, having the financial means and general encouragement are not enough to undertake such activities.

Firstly, the academics' self-confidence in and ability to apply and transfer their knowledge and skills in business are essential.

Secondly, academia ought to actively publicise their work via media outlets and other Internet platforms (newspapers, journals, radio, Twitter, Facebook, etc) as well as during events designed to host and be interest to businesses (e.g. guest lectures, symposiums, conferences. These enhance networking opportunities.

Thirdly, academia ought to approach KE activity with a degree of open mindedness as each business has unique business culture, practice and priorities. From our experience, the biggest priorities were confidentiality and competitiveness. Arguably, the main difference between an academic lawyer and a business manager is: one is obsessed with what the law ought to be; whilst the latter simply wants to know what the law is! Both priorities are mutually important yet, the success of the KE activity we were involved in rested on the latter.

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