Identitiy identification

**IDENTITY IDENTIFICATION**

• Technology can be used

to identify individuals

• Facial Recognition

• Fingerprint

Identifications

blockchain

In the systems current iteration no real authentication outside of requiring a username

and password is done when a user registers a new account in the mobile application.

This is not ideal as this does nothing to prevent a person or an autonomous bot from

registering multiple accounts. A single entity possessing multiple accounts is a poten

tial problems since this could be exploited for nefarious purposes, such as artificially

increasing or decreasing another user’s review score.

Adding more authentication when registering user accounts makes it harder to obtain

multiple accounts. A form of authentication that would have worked well for this project

would have been the authentication of phone numbers via SMS messages. This works

by only allowing each unique phone number to associate with a single user account.

Then when a user tries to create a new account via the mobile application, the user is

required to enter a randomized code into the application that is sent via a SMS message

to the phone number the user provided together with their chosen username and pass

word. This code needs to be correctly entered by the user before the account is created.

This effectively prevents registering user accounts associated with phone numbers that

you do not own.

This feature was not implemented because sending SMS messages inherently incurs

28*14 Conclusions*

fees with a mobile service provider. This was deemed inappropriate for the academic

setting of this project and was therefore left out of this implementation. An additional

reason was that information regarding costs of receiving SMS in West Africa was not

found.

To conclude, e-commerce in Tunisia is still at embryonic stages, even

though the government understood its importance and is promoting its

development. The major obstacles do not seem to be the digital sector, as the

population of eleven million inhabitants has nearly four million Facebook

accounts

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. However, the exchange regulation, logistics and small market

size, combined with the political context and a low regional integration, do

not encourage economic actors to invest in the country

**Weaknesses**

• Access to funding, infrastructures, labour regulation, corruption,

administrative red tape and taxes, according to the World Economic

Forum;

• Distrust regarding the on-line payment system due to fraud;

• High cost of home delivery;

• High cost of telephone communications and improvable service quality,

especially inside the country, featuring problems with on-line financial

transactions for the purchase of recharge cards

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, for instance;

• Absence of e-commerce public policy.

n **Opportunities**

• Population growth, young population;

• Strategic location in West Africa and member of regional organisations

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;

• Political stability;

• Postal services currently being modernised.

n **Threats**

• Corruption, which hamper investments and favours useless investments;

• Risk of losing sovereignty with regard to great global actors and especially

the GAFA.

To conclude on the Senegalese e-commerce market, it is an emerging

market, still focused on the capital region. The WAEMU is an asset; however,

the absence of a policy in favour of e-commerce is an obstacle as it could

encourage on-line export of products from agriculture, fishing and handi

crafts.

E-commerce websites enabling the diaspora to offer services to Senega

lese people is an interesting characteristic to point out.

n **Weaknesses**

• Corruption - considered as an endemic issue in Africa - hampers development;

• Insufficient quality of electronic communication which, according to

the Organisation of digital and telecommunications service suppliers

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,

generates dysfunctions during the purchase of phone recharges;

• Absence of a reliable and cheap parcel distribution logistics service;

• Law bank account penetration preventing, for instance, small producers

from having access to loans;

• Administrative red tape, access to funding, political instability, labour

regulations, infrastructures and corruption, according the Doing Busi

ness report of the World Economic Forum;

• According to Iovation, a specialist in reputation issues, 7% of on-line trans

actions in Africa are fraudulent, versus 5% in Asia and 2% in Europe. Ivory

Coast is the third country in the world for cyber-fraud after Nigeria and Ghana;

• Absence of e-commerce public policy.

**Threats**

• Risk of losing sovereignty in relation to great global actors currently domi

nating the entire Ivorian e-commerce sector;

• 2015 elections generating a climate of uncertainty hindering investments,

especially in the e-commerce sector;

• Slower development than in other regions of the world. In spite of a

better ICT development index, Ivory Coast is the lower-ranked of the four

studied countries.

To conclude on e-commerce in Ivory Coast, it is a country emerging

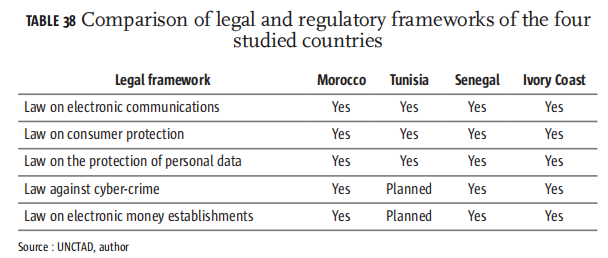
from a crisis and focusing on reconstruction. The first signs of e-commerce,

such as digital or logistic infrastructures, are starting to show and the middle

class is starting to get equipped. One of the question is to know how the

Ivorian industry will innovate and create value to compete with the invest

ments of major foreign companies in the future.



Thanks to the developments above, we can now answer the question as to

whether, and in which conditions, e-commerce could be profitable to Africa.

Indeed, we highlighted the positive and negative aspects of e-commerce in

relation to the sustainable development of the studied countries and we can

now present the results through a SWOT analysis.

n **Strengths**

• E-commerce favours commerce by enabling inhabitants and companies

to access the products and services they need quickly and easily.

• Thanks to its inherent traceability, e-commerce helps to fight against

informal economy and corruption.

n **Weaknesses**

• E-commerce can contribute to deteriorate the balance of payments.

n **Opportunities**

• Youngsters like technology.

• E-commerce can help countries export their products and services and,

therefore, create employment.

• E-commerce can favour the creation of an efficient logistic chain.

• E-commerce can contribute to regional integration.

n **Threats**

• E-commerce can broaden the gap between rich and poor people, by

favouring instructed connected people.

• E-commerce can have a negative impact on social relations in the country

by favouring electronic relations instead of real relationships.

• E-commerce can have a negative impact on the environment, as parcel

transport is a source of carbon emission.

**Fighting cybercrime to build confidence**

According to the Paypal study on the Middle East

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, which is in accor

dance with what we observed in the studied countries, security is the main

issue for buyers and, therefore, the main obstacle to e-commerce. As indi

cated in **FIGURE 9**, cyber-criminals are particularly active in Morocco and Ivory

Coast.

443 www.drivoo.com/home

444 http://fevad.fanvoice.com/ecommerce

445 PayPal Insights e-commerce in the Middle East, September 2013. http://static.wamda.com/web/uploads/resources/24-09-2013\_FINAL-low\_res.

pdf

**FIGURE 9** Map of cyber-crime in West Africa

Source : Study Forbes Afrique “La révolution mobile et numérique en Afrique : le saut qualitatif pour fournir les biens et services”, July 2015.

Therefore, we must cite some of the conclusions of the UNECA orien

tation report “Tackling the challenges of cyber-security in Africa”, as well as

conclusions we drew from our experience:

• at the national level, laws on cyber-security must be created or strengthened

as well as the development of international cooperation in terms of police

and justice;

• at the Pan-African level, it is necessary to converge cyber-security national

regulations, as we will see in the recommendation on non-governmental

organisations;

• we recommend to create one or several resource centre(s) working in

a network on cyber-security, like ENISA in Europe, with the African

CERT

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and the future Bassam cyber-security research centre, carried by

the Ivorian Home office.

Besides, digital identity solutions, recommended by the World Bank in

its guide on digital identity for African actors, could prevent identity theft

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A connexion with the European regulation on electronic identification and

trust services (eIDAS) would be a great asset

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. In practice, we should ask the

studied countries to adopt the Budapest Convention on Cyber-crime

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, while

benefiting from international support, in the framework of the Glacy

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project

for example.

**8. Adopting adapted public policies**

The Tunisian Ministry of Trade has implemented a department dedi

cated to e-commerce. The other studied countries carried out public policies

to foster its development, at the Ministry of Posts and ICT and at the Ministry

of Finances, in collaboration with central banks. The coordination between

the Ministries concerned by this transversal national policy is essential.

Standardising regulations is also an important issue as e-commerce

often crosses borders. The report of the World Economic Forum shows that

tax levels hinder business development in the studied countries. States must

make sure that their tax systems favour e-commerce rather than informal

economy. Too many taxes encourage actors to hide, selling person-to-person,

with payments by cash that cannot be traced.

Exchange policies and currency convertibility are also essential to the

development of international e-commerce. The report on competitiveness

of the World Economic Forum shows that a part of the people interviewed

consider exchange regulations as an obstacle to trade (**TABLE 42**). The SEVAD

Tunisian industrials particularly insisted on this point.

The same goes for justice, which must be able to sanction frauds quickly,

otherwise consumers will no longer have trust in the country.

Finally, African public authorities intend to encourage collaborative

e-commerce, or social-commerce, by relying on the sharing culture, which is

a characteristic of Africa, while promoting product reuse in order to limit the

ecological footprint resulting from consumer society.

**9. Creating an International Observatory of E-commerce**

Several times, we observed the absence of reliable statistics, which

prevents the sector understanding and development, especially in the studied

countries. In addition to official statistics, which are important, we think

it is necessary that people can have access to information on e-commerce

conditions and on payment and delivery reliability. Following the UNCTAD

report, we must bring to the attention of global e-commerce observers (the

payers, Alexa, etc.) the significant development perspectives of the African

middle class and, therefore, of e-commerce in the concerned countries. The

concerned investors and public authorities can then have access to reliable

information, which will help them making better decisions. In France, the

FEVAD publishes an observatory of e-commerce logistics

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. It would be

interesting to compare the figures with that of the studies countries.

Thanks to current technologies, we can create cheap observatories

enabling users to rate the services they purchase online and to make these

ranking public, and anonymous, for future users. Global Online standard

for e-Commerce (GOMSEC) created a first base of indicators with the help

of E-commerce Europe

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. Nevertheless, it should be discussed at the inter

national level, within the European Committee for Standardization or the

International Organisation for Standardisation, so that major actors can be

represented, especially buyers and other members of the value chain.

In order to control costs, we recommend to create a basis of e-commerce

websites at the regional level and to let users express themselves, via rank

ings, on the reliability of such and such service, as is currently the case on

e-commerce websites. Therefore, potential clients will be able to choose what

suits them best, by relying on the ranking of other customers. The Tunisian

Ministry of Commerce and Craftsmanship intends to collaborate with the EU

to create an e-commerce observatory for vendor and retailer decision-makers.

This excellent initiative could be developed at the regional scale.