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# ENTERPRISE DEVELOPMENT AND MARKET COMPETITIVENESS (EDMC)

## E-COMMERCE READINESS ASSESSMENT: ARMENIA CASE STUDY

**November 23, 2012**

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E-COMMERCE READINESS ASSESSMENT: ARMENIA CASE STUDY  
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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

## ABBREVIATIONS AND ACRONYMS

### Abbreviations

#### International

ASEAN - Association of Southeast Asian Nations  
BCDD - Broadband Commission for Digital Development  
CEFACT - Centre for Trade Facilitation and Electronic Business  
ESCAP - Economic and Social Commission for Asia and the Pacific  
IPC - International Post Corporation  
ITU - International Telecommunication Union  
USAID - United States Agency for International Development  
WEF - World Economic Forum

#### Armenia

ADA - Armenian Development Agency  
ArCa - Armenian Card  
ARMIX - Armenian Internet Exchange  
CBA - Central Bank of Armenia  
EDMC - Economic Development and Market Competitiveness  
FSM - Financial System Mediator  
GOA - Government of RA  
ITDSC - IT Development Support Council  
MoE - Ministry of Economy  
MTC - Ministry of Transport and Communication  
NSSRA - National Statistical Service of RA  
PSRC – Public Services Regulatory Commission  
RA - Republic of Armenia  
RA CCI - Chamber of Commerce and Industry of the RA  
UITE - Union of Information Technology Enterprises of Armenia

#### Indexes

GCI - Global Competitiveness Index  
IDI - ICT Development Index  
IPB - ICT Price Basket  
KAM - Knowledge Assessment Methodology  
LPI - Logistics Performance Index  
NRI - Networked Readiness Index

### Acronyms

AMD - Armenian Dram

APTs - Automated Parcel Terminals  
B2B - Business-to-Business  
B2C - Business-to-consumer  
B2G - Business-to-Government  
C2B - Consumer-to-business  
C2C - Consumer-to-consumer  
C2G - Consumer-to-Government  
CEP - Courier, Express, Parcel  
CSOs - Civil Society Organizations  
FTTH - Fiber to the Home  
G2B - Government-to-Business  
G2C - Government-to-Consumer  
G2G - Government-to-Government  
GDP - Gross Domestic Product  
ILRs - Parcels inward land rates  
IPR - Intellectual Property Rights  
IT - Information Technologies  
MNP - Mobile Number Portability  
NCA - National Competition Authority  
NRA - National Regulatory Authority  
PDE - Public Data Explorer  
PPP - Public Private Partnership  
QR Codes - Quick Response Codes  
SSL - Secure Sockets Layer  
UAS - Universal Access Service  
USD - United States Dollar  
USO - Universal Service Obligation  
USP - Universal service provider  
VC - Venture capitals

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## Executive Summary

This report assesses Armenia's e-commerce readiness and offers a number of recommendations for successful adoption of e-commerce in the country and examples of best international practice. It also attempts to explain the reasons for the slow advancement of e-commerce within the business sector and identifies legal, institutional and technological barriers to its development. It is anticipated that the analysis and recommendations developed in this report will be used by the GOA to take the necessary steps to facilitate this mode of trading.

The report focuses on the "infrastructure" (i.e. connectivity hardware and software, telecommunications, product delivery and transportation systems) and "services" (e.g. e-payment systems, secure messaging, electronic markets, etc.) and covers the following areas:

- E-commerce process and trends
- Connectivity and technology infrastructure
- Courier express parcel environment
- E-environment
- Consumer and business adoption
- Legal and policy environment.

**E-commerce process and trends:** The volume of e-commerce transactions in Armenia amounted to approximately USD 8 million in 2011. This constituted only 0.08% of the GDP and 0.23% of all retail transactions. There were 51 e-commerce websites with ArCa online payment facilities, including 8 e-government services, 7 e-banking services, 18 retail stores and 4 digital goods stores.

- The volume of e-transactions and the number and popularity of e-commerce websites are very low.

**Connectivity and technology infrastructure:** In 2011 subscription numbers were as follows (per 100 inhabitants): mobile-cellular telephone subscriptions – 103.57; fixed (wired)-broadband subscriptions – 4.98; mobile-broadband subscriptions – 5.2. Users of internet constituted 56% of the population, and 13.6% of households had internet access. In 2010 Armenia's ICT infrastructure was ranked 72<sup>nd</sup> by ITU IDI and 94<sup>th</sup> by NRI. Armenia ranked 102 among 165 countries in affordability of broadband subscription. Internet bandwidth increased from 1083 Mbit/s to 10547 Mbit/s in 2008-2010.

- Armenia's ranking in various international benchmarking reports remains modest.

**Courier express parcel environment:** Total value of goods exported from Armenia that potentially can relate to e-commerce amounted to USD 11 million in 2011. The World Bank ranks Armenia 100<sup>th</sup> among 155 countries in performance of on-the-ground trade logistics.

- E-commerce exports of Armenia are insignificant.
- Absence of an e-marketplace with integrated payment, delivery, shopping cart modules is an important problem.

- Lack of information on termination rates makes it difficult to assess the capabilities of the postal operator.

**E-environment:** IT companies number 281 with 6,760 specialists working in the field. Although Armenia ranks only 69<sup>th</sup> among 141 countries in the 2012 Global Innovation Index, several institutions, such as Microsoft Innovation Center, the Regional Mobile Laboratory and the National Center for Innovation and Entrepreneurship, help to increase the IT innovative potential of Armenia. The Enterprise Incubator Foundation has been operating since 2002 and the Gyumri Information Technologies Center opened in 2005. There is a pool of qualified IT specialists (web designers and developers, security specialists) and educational institutions preparing such specialists but only two institutions provide master programs in e-business, and there are no certification procedures for e-commerce specialists. Despite the fact that legislation on e-payment systems has been enacted, only one entity has been licensed for processing and clearing of payment instruments and only two for e-money issuance.

**Consumer and business adoption:** There have been very few awareness campaigns on consumer rights in general and e-commerce in particular. There are no legislative acts aimed specifically at protecting e-consumers (e.g. privacy and data protection laws) although the Law on Consumer Rights Protection is applicable to e-commerce transactions. There are no legal requirements for e-merchants to disclose information on product details, testimonials, trust marks, personal data policy, return policy, security policy etc. The cash-on-delivery e-payment method is not practiced. There are no e-business associations to coordinate industry efforts in the field, and no codes of conduct for e-transactions have been adopted. Neither the government nor businesses have initiated creation of an Armenian trust mark (privacy, reputation, security).

- E-commerce literacy is rising among consumers due to the GOA's decision to exempt from VAT importations of goods not exceeding a certain value and transported by the postal operator.
- The framework for consumer rights protection is underdeveloped, except for the financial sector where consumer rights are subject to specific regulations and oversight of the Central Bank and the Office of the Financial System Mediator.
- Although the country has adopted a national cyber security strategy, collaboration with business in this area has not been sufficient.
- The small market size of Armenia is a hindrance for e-commerce adoption by Armenian businesses.
- Armenia suffers from a lack of MNCs operating in the market, which might bring experience and know-how in the e-commerce sector.

**Legal and policy environment:** Armenia has adopted a few e-commerce related laws, particularly a law on e-documents and e-signatures, intellectual property laws, a law on payment and settlement systems and regulations on e-money issuance. At the same time there is no comprehensive law on e-commerce and no specific laws on cybercrime, data and privacy protection in the Internet environment, protection of e-consumers, ADR mechanisms, Internet advertising and unfair business practices. The Customs Code of Armenia allows individuals to import goods ordered electronically from abroad. The MoE intends to amend customs regulations to address the issue of the high prices of brokerage services and customs clearance for exportation.

- Armenian laws fail to regulate a number of aspects of e-commerce, including privacy, cybercrime, ADR, Internet advertising etc.

Recommendations discussed in the report include:

- Enacting a comprehensive e-commerce law according to the UNCITRAL Model Law.
- Establishing an e-commerce development center in order to coordinate the activities of various public and private stakeholders, develop an e-commerce policy; identify barriers to e-commerce; publish reports and guides for businesses; cooperate with international and foreign organization and research international best practices; protect consumer rights etc.
- Establishing an e-commerce database for the purposes of gathering comprehensive information on e-commerce activities, measuring the level of e-commerce penetration and benchmarking Armenia against other markets; designating an authority responsible for collection and publication of e-commerce statistics.
- Promoting the development of high quality ADR services, which are independent, transparent, cost-effective, flexible and accountable to the public; training specialized arbitrators.
- Amending consumer protection laws to ensure that e-merchants provide sufficient information on their websites (product details, testimonials and reviews, details at checkout, personal data policy, return policy, contact information, security policy etc.).
- Amending consumer protection laws to ensure availability of chargeback practices protecting the rights of merchants and consumers.
- Amending consumer protection laws to provide for return policies more protective of e-consumers. This will also help courier companies to increase profits and expand.
- Amending consumer protection laws to distinguish between fraudulent and untargeted commercial communications (spam) and commercial email, prohibiting spam while recognizing that commercial email can play a legitimate and significant role in the emergence and growth of electronic commerce. To that end, an "opt-out" approach should be adopted as the most effective means of balancing consumer trust and choice for legitimate commercial email.
- Assisting Armenian banks in joining the MyBank initiative. This will help build confidence in Armenian e-merchants and give them access to European markets.
- Creating an Armenian trust mark brand, which will assure e-consumers that they are dealing with an authentic, trustworthy trader who respects their privacy, follows good information security practices, does not allow any illegal or immoral content and has a clear policy for dispute resolution.
- Assisting Armenian e-commerce companies in joining eBay, Amazon, Rakuten and other worldwide marketplaces.

The analysis conducted in the report has some limitations. The report has been written based mainly on desk research and several interviews with relevant officials. Because of the absence of surveys among e-consumers, several components of e-business adoption, such as purchase convenience, free shipping and return policy, have not been evaluated. Little information is



available on the adoption of e-commerce by local businesses, in particular no data was found on strategic orientation of businesses, industry structure, firm size, top management support, financial and human resources etc. Neither there has been a review on how businesses perceive gains and risks in e-commerce. There is little information on cross-border e-commerce, and the lack of detailed e-commerce statistics makes it difficult to assess the volume of mobile commerce and social commerce.

## I. INTRODUCTION

The number of Internet users around the world has been steadily growing, and this growth has provided the impetus and the opportunities for local, regional and global electronic commerce (e-commerce). However, as with the Internet, different characteristics of the local environment have created significant levels of variation in the acceptance and growth of e-commerce in different regions of the world.

In this report, we have assessed Armenia's e-commerce readiness and proposed a strategy (set of recommendations) for successful adoption of e-commerce in Armenia. The main focus is to understand why this sector has not yet advanced within the business arena of Armenia, and to identify good international practices in order to inspire the country when defining its e-commerce strategy.

Various studies have been conducted and models have been developed to identify diffusion of e-commerce in different environments. These models have looked at "infrastructure" (i.e. connectivity hardware and software, telecommunications, product delivery and transportation systems) and "services" (e.g. e-payment systems, secure messaging, electronic markets, etc.) as the primary diffusion factors. Based on review of the literature, we have tried to gather the set of factors that help us further in the report to identify barriers to e-commerce diffusion in the country.

The "Digital economy rankings: Beyond e-readiness"<sup>1</sup> the Report analyzes e-readiness of the country by measurement in the following distinct categories:

- E-commerce process, trends
- Connectivity and technology infrastructure
- Courier express parcel environment
- E-environment
- Consumer and business adoption
- Legal and policy environment.

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<sup>1</sup>Economist Intelligence Unit (2010), Digital economy rankings - Beyond e-readiness, [www.eiu.com](http://www.eiu.com)

# I. E-COMMERCE PROCESS, TRENDS

## E-commerce Process

### Definitions for E-commerce process steps

#### E-commerce<sup>2</sup>

Electronic commerce (e-commerce) is the buying and selling of products or services over electronic systems such as the Internet and other computer networks. Currently, the Internet is used at least at one point in the transaction's life-cycle, although it may encompass a wider range of technologies such as e-mail, mobile devices and telephones as well.

The key E-commerce components are:

- Shopping cart software: Shopping cart software assists people making purchases online.
- Payment: Online shoppers commonly use a credit card, charge card or a debit card to make payments.
- Product delivery: Once a payment has been accepted, the goods or services can be delivered in the following ways: downloading (software, games, music, movies, or images), printing out (tickets, gift certificates and coupons), shipping, in-store pickup.

E-commerce was previously considered to be a transaction between parties through PCs and laptops, but evolving technologies are bringing new definitions to differentiate other methods of transacting by way of e-commerce.

## 2. Armenia's E-commerce Statistics per Source of Data

### National Statistical Service of the Republic of Armenia (NSSRA)<sup>3</sup>

In the “Statistical Yearbook of Armenia” of the NSSRA the section on Transport and Communications<sup>4</sup>, provides Indicators of Post and Courier activities, however information on Shipping through E-commerce is missing. Under the Trade and Services<sup>5</sup> section, the Retail Trade Organizations sub-section is limited to data on conventional types of retail: shops, consumer good market, kiosk and other trade units.

The section on the Financial Sector fails to provide any data about the volume of e-commerce transactions.

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<sup>2</sup>E-commerce differs from the term E-Business<sup>2</sup> which is the application of information and communication technologies (ICT) in support of all the activities of business.

Wikipedia: [http://en.wikipedia.org/wiki/Electronic\\_commerce](http://en.wikipedia.org/wiki/Electronic_commerce)

<sup>3</sup>National Statistical Service of the Republic of Armenia (NSSRA): [www.nssra.am](http://www.nssra.am)

<sup>4</sup> Statistical Yearbook of Armenia, Transport and Communications: <http://armstat.am/file/doc/99466688.pdf>

<sup>5</sup> Statistical Yearbook of Armenia, Trade and Services: <http://armstat.am/file/doc/99466693.pdf>

## Central Bank of Armenia (CBA)<sup>6</sup>

The annual statistics of the volume of e-commerce transactions in Armenia is provided by CBA. Its Annual Statistical Bulletins<sup>7</sup> provide general information for transactions in the “Internet environment”, which are presented in the “Payment Card Transactions by Service Facilities” part within the “Payment and Settlement System” section. Transactions volume of e-commerce can be derived from other publications of CBA such as the Banber quarterly reviews of the Armenian financial system.<sup>8</sup> But the information is presented in the text rather than a table, and the methodology of calculations is not detailed. Below is presented data in one table to show the trend of e-commerce transactions in Armenia.

Table 1: Payment Card Transactions by Service Facilities → Internet environment → E-Commerce

	2008	2009	2010	2011	2012 (1 <sup>st</sup> and 2 <sup>nd</sup> q.)
Internet environment - Value (billion AMD)	1.8	5.6	8.8	12.9	8.8
E-Commerce Transactions- Value (billion AMD)	-	-	2.1	3.1	2.1
E-Commerce Transactions- Value (million USD)*	-	-	5.8	8	5.1
Growth rate as for previous years	-	-	-	72.5%	75%**
# of transactions in Internet Environment	82185	233386	323390	548765	

\* Source for Exchange Rate: Oanda: <http://www.oanda.com/currency/historical-rates/> / \*\* Projected

Table 2: E-Commerce Transactions Volume as of % GDP and % Total Retail for 2011

	Armenia	UK	South Korea	China	US	Japan	EU	Russia	Turkey
% GDP	0.08	8.2	7.4	5.5	4.8	4.8	3.8	2.9	1.8
% Retail	0.24	10			9 <sup>9</sup>		3 <sup>10</sup>	2	

Source: CBA, NSSRA<sup>11</sup> and BCG<sup>12</sup>

## Armenian Card (ArCa)<sup>13</sup>

The Armenian Card was established by CBA and 10 trade banks in March 2000 with the goal of establishment and development of a new payment system. ArCa presents a service package that allows banks to issue and acquire ArCa, MasterCard, VISA and American Express cards using the modern techniques, technologies and software of the processing center as well as the ArCa's professional assistance. On its website, ArCa presents a list of Internet merchants who accept online payments in Armenia:

<sup>6</sup> Central Bank of Armenia: [www.cba.am](http://www.cba.am)

<sup>7</sup> CBS: Annual Bulletins: (2010) <http://www.cba.am/en/sitepages/statsannualbulletin.aspx> and (2011) [http://www.cba.am/EN/ppperiodicals/vich\\_tex\\_12\\_eng.pdf](http://www.cba.am/EN/ppperiodicals/vich_tex_12_eng.pdf)

<sup>8</sup> CBA: Banber quarterly review for 1<sup>st</sup> quarter of 2012: [http://www.cba.am/EN/ppperiodicals/banber\\_I\\_12.pdf](http://www.cba.am/EN/ppperiodicals/banber_I_12.pdf)

<sup>9</sup> <http://www.slideshare.net/victori98pt/2011-internet-sector-outlook-by-j-p-morgan>

<sup>10</sup> Growing the EU's online economy - 11/01/2012: [http://ec.europa.eu/news/economy/120111\\_en.htm](http://ec.europa.eu/news/economy/120111_en.htm)

<sup>11</sup> Volume of retail trade turnover, mln Drams: 1294806.1: <http://armstat.am/en/?nid=126&id=06001&submit=Search>

<sup>12</sup> <http://www.economist.com/blogs/graphicdetail/2012/04/daily-chart-2?zid=291&ah=906e69ad01d2ee51960100b7fa502595>

<sup>13</sup> Armenian Card (ARCA): [www.arca.am](http://www.arca.am)

**Table 3: Websites accepting online payments from ArCa card holders:**

	Working	Not Working
Retail (Products, Daily Deals, Group Buying, etc.)	18	5
Digital Goods (Software, Music, Video, Game, TV, News, Tickets, etc.)	4	5
Internet Marketing (SMS, Mobile Applications, etc.)	1	
Internet Service Providers (Internet, Hosting, Domain, etc.)	5	5
Mobile Operators	2	
VoIP		1
Betting / Brokering	4	1
E-Payment Systems	2	
Banks / Financial Services	7	1
E-Government Services	8	
Subtotal: No longer exist and/or not providing online-payment option		18
Subtotal: Working and providing the functionality for online-payment	51	
<b>Total</b>	<b>69</b>	

### **Spyur<sup>14</sup>**

Spyur collects, processes and disseminates information about companies and organizations in Armenia. Based on searching the results of the business directory section of the Spyur online database, there are 15 registered companies classified as Online Store Services.

### **Alexa<sup>15</sup>**

Alexa is the leading provider of free, global web metrics. Visitors can look up the most successful sites on the web by keyword, category, or country. Using Alexa the list of the Top 500 sites in Armenia were reviewed based on the number of visitors to identify the top five e-commerce-related websites, which are eBay global marketplace (17<sup>th</sup> place); Sas.am supermarkets chain (37<sup>th</sup>); ArCa Payment System (56<sup>th</sup>); Webmoney e-payment system (62<sup>nd</sup>); PayPal e-payment system (65<sup>th</sup>).

The scrutiny proved that Armenia lacks detailed information on local and cross-border e-commerce. Many other countries and several international organizations are currently engaged in the collection and presentation of such data. Statistical information is very important to policy makers, and to local and foreign investors.

### **Recommendation**

Armenia needs to establish an e-commerce database with the purpose of i) gathering and consolidating sufficient and comprehensive information on the state of e-commerce activities; ii) using the database to evaluate and measure the level of accomplishment in the implementation of e-commerce; and iii) benchmarking Armenia against other markets.

<sup>14</sup>Spyur: Business Directory and Yellow Pages of Armenia: [www.spyur.am](http://www.spyur.am)

<sup>15</sup>Alexa:The Web Information Company: <http://www.alexa.com/topsites/countries/AM>

## II. CONNECTIVITY AND TECHNOLOGY INFRASTRUCTURE

Adoption of e-commerce in developing and emerging-market countries is limited by a lack of affordable Internet access and the overall quality of ICT infrastructure. This section measures the extent to which individuals and businesses access the Internet and mobile networks, and do so affordably with assurance of quality, reliability and security.

Favorable access conditions will greatly facilitate the creation of “critical mass” for the development of e-commerce. But a conundrum is that e-commerce businesses will not be created if there is no perceived demand for services, but there will be no perceived demand if buyers and suppliers cannot successfully get online. It is imperative, therefore, that access does not become a barrier to the adoption of e-commerce in Armenia. More buyers mean a greater customer base for potential sellers; more sellers mean more competition and better services for consumers.

### 1. Connectivity in Armenia

ITU statistics are widely recognized as the world’s most reliable and impartial global data on the state of the global ICT industry. Information was used from PDE, mutual product of Google and ITU, to illustrate Armenia’s connectivity compared to other post-Soviet countries of the same economy scale, Georgia, Moldova and Estonia.

Table 4: Armenia’s ICT access and usage statistics by the end of 2011<sup>16</sup>

	Georgia	Estonia	Moldova	Armenia	Developing Countries	Developed Countries
Mobile-cellular telephone subscriptions per 100 inhabitants (p.h. 100)	102.35 (2011)	138.8 (2011)	104.8 (2011)	103.57 (2011)	70.1 (2010)	114.2 (2010)
Fixed(wired)- broadband subscriptions (p.h. 100)	7.6 (2011)	27.14 (2011)	9.89 (2011)	4.98 (2011)	4.2 (2010)	23.6 (2010)
Mobile-broadband subscriptions (p.h. 100)	18.8 (2010)	8.1 (2010)	15.3 (2010)	5.2 (2010)	8% (2011)	51% (2011)
Users of Internet (% of population)	38% (2011)	76.5 % (2011)	36.56% (2011)	56.0% (2011)	70% (2011)	90% <sup>17</sup> (2011)
Households with internet access (in %)	16.6% (2010)	67.8% (2010)	34.7% (2010)	13.6% (2010)	20% (2011)	70% (2011)

Source: ITU

Rankings provide an opportunity to see the data in perspective and a starting point to look into ways to make positive changes. Policymakers also are able to evaluate the impact of specific projects and policies.

<sup>16</sup> Google Public Data Explorer: <http://www.itu.int/ITU-D/ict/statistics/explorer/index.html>

International Telecommunication Union (ITU): [www.itu.int](http://www.itu.int)

<sup>17</sup> Key statistical highlights: ITU data release June 2012

[http://www.itu.int/ITU-D/ict/statistics/material/pdf/2011%20Statistical%20highlights\\_June\\_2012.pdf](http://www.itu.int/ITU-D/ict/statistics/material/pdf/2011%20Statistical%20highlights_June_2012.pdf)

## 2. Armenia's Connectivity Infrastructure (Broadband)

### Armenia's Broadband at a Glance

The broadband sector in Armenia is regulated by the Law “On Electronic Communications”.<sup>18</sup> The Ministry of Transport and Communications (MTC)<sup>19</sup> is responsible for policy development in telecommunications sector. The Public Services Regulatory Commission (PSRC)<sup>20</sup> is an assigned regulator of the telecommunications sector, and is implementing its activities based on the law On the Authority Regulating the Public Services.<sup>21</sup>

### ITU's look<sup>22</sup>

Fixed-broadband penetration is currently around three per cent, but there are positive signs for growth in Armenia's broadband sector. The Ministry of Economy plans to build and expand a mixture of fiber optic, and satellite technologies working to develop the country's high-speed broadband network at a cost of approximately USD 24 million. The country's main operators have extended its 3G and 4G footprint, deploying an additional 4G base stations in new regions so as to improve coverage, and will introduce VDSL technology to deliver higher capacity.

### National Broadband Network

In 2010, the World Bank initiated the “E-Society and Innovation for Competitiveness Project”<sup>23</sup> for Armenia. The aim is to address constraints to competitive e-society and enterprise innovation in Armenia by strengthening the underlying infrastructure and enabling environment. A principal purpose of the project is e-society infrastructure development. The project will provide financing to support the design and development of the Armenian ICT infrastructure required for an e-society through: (a) supporting sub-project for deployment of national broadband information infrastructure, including backbone network and broadband access on a public private partnership (PPP) basis with adequate international linkages and necessary connections for public institutions throughout the country (government virtual private network); (b) supporting a digital citizen program aimed at enhancing trust and security in the provision of electronic services and hence promoting further uptake of electronic services by citizens and businesses through support to the creation of a national certification authority for electronic signatures; and (c) promoting increased computer penetration and digital literacy through a ‘computer for all’ program. The Nationwide Broadband Backbone and Government Network project sub-component should aim for a capacity of 100 Mbps, and reach to 900 communities of Armenia.

There are several organizations that have researched and stored experience of different countries in broadband development. Such organizations created Toolkits for policy-makers. GOA should actively interact with ITU, BCDD, infoDev, OECD, etc. For example, BCDD publishes the list of Broadband Policies-Worldwide<sup>24</sup>: a selection of national policies which aim to promote broadband deployment. Armenia is not presented in the list yet. Along with this, ITU has started series of

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<sup>18</sup>The Law of the Republic of Armenia on Electronic Communications

<sup>19</sup> RA Ministry of Transport and Communication: [www.mtc.am](http://www.mtc.am)

<sup>20</sup> Public Services Regulatory Commission (PSRC): [www.psrc.am](http://www.psrc.am)

<sup>21</sup>The Law of the Republic of Armenia on the Authority Regulating the Public Services

<sup>22</sup> “Measuring the Information Society” report (ITU, 2011): <http://www.itu.int/ITU-D/ict/publications/idi/index.html>

<sup>23</sup> The World Bank's “E-Society and Innovation for Competitiveness Project” for Armenia:  
<http://www.worldbank.org/projects/P115647/e-society-innovation-competitiveness-eic-project?lang=en>

<sup>24</sup> Broadband Policies-Worldwide (Broadband Commission for Digital Development)  
[http://www.broadbandcommission.org/Documents/NationalBBPolicies\\_2012.pdf](http://www.broadbandcommission.org/Documents/NationalBBPolicies_2012.pdf)

publications on broadband policies and their impact on economies. The first one is “The Impact of Broadband on the Economy.”<sup>25</sup> In its turn, infoDev created two useful web resources: ICT Regulation Toolkit and broadband Strategies Toolkit.

### III. COURIER EXPRESS PARCEL (CEP) ENVIRONEMENT

#### 1. CEP Market<sup>26</sup>

The CEP Market is a two-tier market. On the one hand, small and infrequent senders (e-commerce exporters), with a concentration of senders located in areas and countries where population density is low, have less choice and often have no alternative other than the services of national postal operators, and pay higher prices than large senders, and higher published cross-border prices as compared to domestic ones. Large senders enjoy the economies that come from competitive delivery markets. On average, a lorry load contains between 1,150 and 1,650 parcels. These are large figures: At an average sales price of €69 for cross-border purchases of physical goods, a vendor would have to have sales turnover of approximately €17.4m a year to dispatch one lorry load of parcels a day, and of about €3.5m a year for weekly dispatches to a cross-border destination.

The overall volume of Armenian export of goods (2011) that potentially can relate to B2C E-commerce is approximately 11m USD.<sup>27</sup> These commodities are books and magazines (283,000 USD) carpets (103,000 USD), textiles (7,282,000 USD), shoes (1,455,000), furniture (869,000), music instruments (104,000), toys (123,000) and art (840,000).

Obviously Armenia needs to do more to support small and infrequent senders (e-commerce exporters). Two policy issues are important to consider if this goal is going to be achieved, including good regulation and an appropriate Universal Service Obligation (USO) system. There is a need to address barriers in the postal sector and to encourage other organizations to act as CEP providers (online brokers, consolidators).

#### 2. Regulatory framework of Postal Communications in Armenia

The RA Ministry of Transport and Communications (MTC) has been recognized by the Government to act as the authorized body in the postal network sector.<sup>28</sup> The state policy in the field of postal network is implemented by the authorized body.<sup>29</sup> Also, the authorized body shall support free and equal competition in the market of postal (courier) communication services.<sup>30</sup>

The postal network comes under the public services regulatory sector.<sup>31</sup> Regulation in public services sector is aimed at, among other things, contribution in the formation and development of competitive markets and encouraging effective use of resources.<sup>32</sup>

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<sup>25</sup> The Impact of Broadband on the Economy - Research to Date and Policy Issues. April 2012, ITU.  
[http://www.itu.int/ITU-D/treg/broadband/ITU-BB-Reports\\_Impact-of-Broadband-on-the-Economy.pdf](http://www.itu.int/ITU-D/treg/broadband/ITU-BB-Reports_Impact-of-Broadband-on-the-Economy.pdf)

<sup>26</sup> See Appendix 4 for Trends in the CEP Market.

<sup>27</sup> Foreign Trade of Armenia 2011: [http://www.armstat.am/file/article/ft\\_2nish\\_11\\_8.pdf](http://www.armstat.am/file/article/ft_2nish_11_8.pdf)

<sup>28</sup> See Government Decision N 292-N of 10 March, 2005.

<sup>29</sup> See Article 10 of the Law “On Postal Network”.

<sup>30</sup> See Article 10, paragraph “j” of the Law “On Postal Network”.

<sup>31</sup> See the Law of the Republic of Armenia “On Public Services Regulatory Body”.

<sup>32</sup> *Ibid.* Article 4.



HayPost CJSC is recognized by the Government to act as the National Operator of the postal network in Armenia.<sup>33</sup>

Currently, 23 organizations are licensed to provide postal and courier services in Armenia.<sup>34</sup>

### Recommendation

For efficient and expert regulation of postal communication, PSRC can be designated as a NRA (regulator). The tasks of the designated NRA should be: ensuring compliance with the obligations of the postal service directive, including high quality postal services, issuing licenses where applicable, dealing with complaints procedures, supervising the cost orientation of tariffs, promoting competition in the sector and collecting statistical data.

### National postal operator

HayPost CJSC is the Armenian universal postal service provider which provides postal, payment and retail services. In December 2011, HayPost acquired Riposte Essential™, a product of the Escher Group.<sup>35</sup> This action was part of the program to modernize the Armenian postal sector. The National Postal Operator will roll out Riposte Essential across its postal network during 2012. Riposte Essential is a comprehensive retail management solution, and is also Escher Group's Point of Sale Retail product. It includes a set of off-the-shelf applications supporting a broad range of transactions, including postal and traditional retail sales as well as banking and bill payments.

### Recommendation

HayPost should provide access to Riposte Essential (supply chain management software acquired by HayPost) for software development companies and for retailers as they integrate it with their shopping carts.

### Alternative business models for cross-border e-commerce

Several well-known shipping brands are currently providing services in Armenia. Among them are DHL, TNT, UPS, and FEDEX.

### HayPost's international agreement base<sup>36</sup>

Armenia has been a member of Universal Postal Union (UPU) since 1992. In 1992, Armenia entered the 12-member Regional Commonwealth in the field of Communications. In 2008 HayPost became a member of PostEurope<sup>37</sup> (Association of 48 European public postal operators).

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<sup>33</sup> See Government Decision N 292-N.

<sup>34</sup> List of licensed postal operators: <http://mtc.am/DownloadFile/6480arm-PK-mayr.pdf>

<sup>35</sup> <http://www.haypost.am/view-lang-eng-announcement-152.html>

<sup>36</sup> HayPost: International cooperation: <http://www.haypost.am/view-lang-eng-page-181.html>

<sup>37</sup> PostEurope: <http://www.posteurop.org/>

### III. E-ENVIRONMENT

#### 1. IT Industry

Information technologies (IT) play an essential role in supporting daily life in today's digital society. Countries are making more and more efforts to bring the IT industry to a level when it can generate new ideas, easily adopt international trends and solutions and prepare appropriate skills for continuous growth of the sector. The IT industry is mainly the infrastructure backbone of the e-environment for e-commerce.

#### Current State of IT Sector in Armenia<sup>38</sup>

In recent years, the IT sector has witnessed a major inflow of foreign investors who have located in Armenia to capitalize on the young and highly qualified workforce. The major specializations in the IT sector include embedded software and semiconductor design, custom software development and outsourcing, financial applications, multimedia design, Internet applications, web development, MIS and system integration.

- The total number of IT companies is 281, 107 of which are foreign branches.
- Total employment in the IT sector is about 6,800.
- The IT sector accounts for 2 per cent of GDP.
- The total turnover of the IT industry is 205m USD, 90 million of which consists of exports.
- The number of students in IT specialties at major Armenian universities is about 7,000.
- The revenues of IT companies from the domestic market reached SD 115 million in 2011.

#### IT Sector by 2018

In 2008, the Government adopted a new 10-year industry development strategy focused on building infrastructure, improving quality of IT graduates, creating venture and other financing mechanisms for start-up companies. The main goals of this new strategy were to build a developed information society in Armenia, make Armenia part of the knowledge creation global network, and form a strong and advanced information technology sector. The strategy aims at increasing the ranges of computer and internet penetration in all segments of the economy; building new technoparks and incubators; establishing a major venture fund; developing the domestic market for local IT products and services' increasing FDI, and other measures targeting the expansion of the ICT sector and the development of an IT society in Armenia.

#### International Support

- To support to the achievement of the aforementioned objectives, in 2011 the World Bank started the Armenia E-Society and Innovation for Competitiveness Program. It includes the following projects: The Pan-Armenian Broadband Access and Management Network, Introduction of Certification Center in Armenia, Computer for All, Gyumri IT Center, and financial support to companies needing innovative knowledge and technologies and assistance to IT/research industry development.

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<sup>38</sup> Armenian IT Sector, EIF, 2011: [http://mineconomy.am/uploads/State\\_Of\\_Industry\\_Report\\_2011\\_ENG\\_final.pdf](http://mineconomy.am/uploads/State_Of_Industry_Report_2011_ENG_final.pdf)

- In 2011, the USAID funded EDMC<sup>39</sup>Project was launched, targeting SME capacity building in IT sector among others.

**Table 5: IT industry growth targets through 2018**

Main Indicators	2018
Home computer penetration	70%
Educational computer penetration	100%
Central and local government computer penetration	100%
Population Internet penetration	90%
State entity spending on locally developed IT products, % of national budget	>1%
Domestic spending on locally developed IT products, % of GDP	>2%
Share of e-services in all services provided by government authorities	80%
Number of IT companies (from which 200 with foreign capital)	1000
IT workforce	20000
Productivity, output per employee	50,000 USD
Industry revenues	1 bln USD
Exports	700 mln USD
Companies with $\geq 1,000$ employees	>1
IT companies offering R&D services	100-200
Techno-city	>1
Techno-Parks & incubators	>10
Venture capital funds committed	>700 mln USD
Local open joint stock companies (registered at Armenian StockExchange)	50 - 100
Local open joint stock companies (registered at international stockexchanges)	>5

<sup>39</sup> EDMC: <http://www.edmc.am/>

## 2. Electronic Payment Systems

A **payment system**<sup>40</sup> is a system used for transferring money. With the advent of computers and electronic communications, a large number of alternative electronic payment systems have emerged. These include debit cards, credit cards, electronic funds transfers, electronic checks, electronic cash, e-wallets, p2p payments, wireless payments, direct credits, direct debits, and Internet banking. Standardization has allowed some of these systems and networks to grow to a global scale (credit cards, ATMs), but there are still many country and product specific systems. In the United States, for instance, the Federal Reserve Bank operates the automated clearing house (ACH) system. In most EU countries, direct debit is the preferred method of facilitating electronic payments.

### EU Practice<sup>41</sup>

The Payment Service Directive (PSD) and Single Euro Payments Area<sup>42</sup> (more specifically e-SEPA) are two important public sector-led initiatives to harmonize (online) payments in the region. The aim of PSD is to ensure the user-friendliness, safety and efficiency of payments throughout the European Union/European Economic Area, in particular for credit transfers, direct debit mandates, card payments, as well as for money transfer services. One of the novelties of PSD was the system of licenses for payment service providers (PSPs). It lays down information requirements regarding payment services and lists rights and obligations of both PSPs and users. Under the SEPA program, European banks seek to harmonize credit transfers, direct debits and card products across 32 European countries. The SEPA vision is to abandon the concept of cross-border payments and to treat Europe as one domestic region for payments. Every citizen and organization should have access to the same payment instruments all over Europe.

## 3. Payment System in Armenia

Armenian legislation provides the Central Bank of Armenia with the power to regulate and supervise the payment and settlement system activities. Under this power the Central Bank participates in drafting laws regulating the payment and settlement area, enacts sub-legislative acts regulating payment and settlement relations, determines the forms of statistical reports for the payment area, and the procedure for reporting by Armenian banks and other organizations.

### Participants of Payment and settlement systems

The participants of the payment systems in Armenia are the banks and non-bank financial organizations. Banks provide payment settlement services based on their licenses and can freely join any of the payment systems (also international ones) operating in Armenia. Non-bank financial institutions are payment settlement organizations which are regulated by the law “On Payment and Settlement System and Payment and Settlement Organizations.” By law, the authorized participants of payment and settlement system of Armenia are:

- Organizations offering money remittances, whereby they receive payments and make payments without opening bank accounts, as well as render other payment and settlement services, as permitted by the CBA Board, that are connected with any given type of payment and settlement service;

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<sup>40</sup> Payment system: [http://en.wikipedia.org/wiki/Payment\\_system](http://en.wikipedia.org/wiki/Payment_system)

<sup>41</sup> European Payment Council: <http://www.europeanpaymentscouncil.eu/>

<sup>42</sup>SEPA: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:094:0022:0037:EN:PDF>

- Organizations implementing processing and clearing of payment instruments and payment and settlement documents for the third parties, as well as rendering other payment and settlement services, as permitted by the CBA Board, that are connected with any given type of payment and settlement service; and
- Organizations implementing emission of electronic money.

Currently seven organizations offer money transfer services.<sup>43</sup> Three of them are also permitted to carry out processing and clearing of payment instruments. Armenian Card CJSC (ArCa) is licensed to carry out processing and clearing of payment instruments.

**ArCa:** Armenian Card CJSC has been issued an activity license for processing and clearing of operations by ArCa cards and processing of operations by Visa and MasterCard. The ArCa card unified payment system was introduced by the Armenian commercial banks and the Central Bank in 2001. The owner and operator of the system is Armenian Card CJSC which, at the same time, oversees and regulates the activity of the system, formulates the system's development policy, and ensures its implementation. The settlements in the system are executed according to the principle of multilateral netting while the final settlement is done via correspondent accounts of participant banks with the Central Bank. The flows of payment messages in the system are Y-structured.

**iDram<sup>44</sup>:** The new player in the market is "idram" LLC, the operator of "idram" payment system (founded 2008). The company was licensed by the CBA in 2009. idram LLC was the first in Armenia that was authorized to issue electronic money in March, 2012. The company's goal is to develop capabilities of money transfers in the Internet environment.

#### 4. Electronic Payment Instruments

The functionality of the electronic payment system is measured by transactions committed, structure of the electronic payment instruments available within a country, and the payment instruments used during payment of purchased products or services. However, it is important to note that Armenian society is still primarily cash-based.

##### Recommendation

The GOA should consider the development of a strategy for e-cash society.

The CBA should initiate surveys to discover preferred non-cash payment methods in the country.

##### Payment instruments in Armenia

Most noncash payments carried out in Armenia are by payment orders, and the remainder by other instruments, such as debit orders, checks, and cards.<sup>45</sup>

- **Credit payment orders:** The most commonly-used non-cash payment instrument in Armenia, which is due to the fact that it is traditionally-applied and is almost fully regulated.
- **Payment by debit orders:** The usage of payment by debit orders is not yet a widespread practice among business entities in Armenia.

<sup>43</sup> CBA Quarterly Bulletin Banber: <http://www.cba.am/Storage/AM/downloads/parberakan/statistics/banber/Banber2-12.pdf>

<sup>44</sup>iDram: [www.idram.am](http://www.idram.am)

<sup>45</sup> Payment instruments in Armenia: <http://www.cba.am/en/sitepages/pspaymentinstruments.aspx>

- **Payment by travelers' checks:** In Armenia, travelers' checks are not accepted in retail outlets and service centers as a means of payment. These usually can only be cashed at banks.
- **Payment by cards and e-money:** Presented below in more details.

## 5. Payment Cards

Over the years, credit cards have become one of the most common forms of payment for e-commerce transactions. The current global payment card network industry is dominated by only a few players. Among them, Visa and MasterCard enjoy a dominant market share.<sup>46</sup> However, an ascending trend towards domestic processing of payment transactions has been spotted in many countries. Since the launch of UnionPay cards in China, many other countries are also considering similar networks in their countries.

In the meantime, the use of smartcards has become extremely popular. A smartcard is similar to a credit card; however it contains an embedded 8-bit microprocessor and uses electronic cash which transfers from the consumers' card to the sellers' device. Starting from the second quarter of 2007, the member banks of the ArCa system are issuing not only magnetic-stripped cards but also chipped (smart) cards.

### Key issues for consideration

**Interchange Fees:**<sup>47</sup> The interchange fee is a term used in the payment card industry to describe a fee paid between banks for the acceptance of card based transactions. Usually it is a fee that a merchant's bank (the "acquiring bank") pays a customer's bank (the "issuing bank"), though there are instances where the interchange fee is paid from the issuer to acquirer, often called reverse interchange.

These fees are set by the credit card networks, and are the largest component of the various fees that most merchants pay for the privilege of accepting credit cards, representing 70- 90% of these fees by some estimates, although larger merchants typically pay a lower percentage. Interchange fees have a complex pricing structure, which is based on the card brand, regions or jurisdictions, the type of credit or debit card, the type and size of the accepting merchant, and the type of transaction (e.g. online, in-store, phone order, whether the card is present for the transaction, etc.). Further complicating the rate schedules, interchange fees are typically a flat fee plus a percentage of the total purchase price (including taxes). For instance, in the United States, the fee averages approximately 2% of transaction value.

**Recommendation:** The GOA should review and understand whether interchange fees by ArCa serve as a barrier for e-merchants to include card payment option in their shopping carts.

**Chargebacks:** A chargeback is when money in a merchant account is held due to a dispute relating to the transaction. Chargebacks are typically initiated by the cardholder. In the event of a chargeback, the issuer returns the transaction to the acquirer for resolution. The acquirer then forwards the chargeback to the merchant, who must either accept the chargeback or contest it. In most cases chargeback can be avoided by merchants by setting up clear terms and conditions, granting fast delivery of ordered goods or services. In order to regulate the issue, the Credit Card Accountability Responsibility and Disclosure Act of 2009 was adopted in the U.S. It is comprehensive credit card reform legislation that aims "to establish fair and transparent practices

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<sup>46</sup> Credit card: [http://en.wikipedia.org/wiki/Credit\\_card](http://en.wikipedia.org/wiki/Credit_card)

<sup>47</sup>Interchange Fees: [http://en.wikipedia.org/wiki/Interchange\\_fee](http://en.wikipedia.org/wiki/Interchange_fee)

relating to the extension of credit under an open end consumer credit plan, and for other purposes.<sup>48</sup>

**Recommendation:** GOA should consider amendments to legislation to address chargeback practices aimed for equally securing the rights of merchants and consumers.

**Merchant Accounts:**<sup>49</sup> A merchant account is a type of bank account that allows businesses to accept payments by debit or credit cards. A merchant account is established under an agreement between an acceptor and a merchant acquiring bank for the settlement of payment card transactions. In some cases a payment processor, independent sales organization (ISO), or merchant service provider (MSP) is also a party to the merchant agreement. Whether a merchant enters into a merchant agreement directly with an acquiring bank or through an aggregator such as PayPal, the agreement contractually binds the merchant to obey the operating regulations established by the card associations.

### Armenia's Case:

- The CBA has developed and adopted the procedure “Issuance, Acquiring and Distribution of and Implementation of Operations by Payment Cards in Armenia.”<sup>50</sup> Upon this procedure, Armenian banks can provide merchant accounts to Armenian businesses.
- Armenian businesses cannot open merchant accounts at PayPal. However, there are other well-known services that provide such opportunity, such as Skill.

**Payment gateway:** A payment gateway service authorizes payments for e-businesses and online retailers. It is the equivalent of a physical POS (point-of-sale) terminal located in most retail outlets. A merchant account provider is typically a separate company from the payment gateway. Some merchant account providers have their own payment gateways, but the majority of companies use 3rd party payment gateways. The gateway usually has two components: a) the virtual terminal that can allow for a merchant to securely login and key in credit card numbers, or b) the website's shopping-cart connect to the gateway via an API to allow for real time processing from the merchant's website. The internationally recognized payment gateway providers are 2CheckOut, Amazon Payment Gateway, Authorize.net, Google Checkout, PayPal, and WorldPay. Some of them (such as PayPal) are bundled payment gateways/merchant processors.

**Armenia's Case:** iDram charges a 2.5 to 5% commission for receiving online payments for products and/or services. By comparison, PayPal charge a flat percentage of the transaction (1.9% - 2.9% depending on volume), plus the per-transaction fee. Other well-known merchant processors charge in the range of 2.2% to 2.65% plus 1%-1.5% for non-qualified cards.<sup>51</sup>

### Payment Cards Penetration

Set out below is the information on the number of payment cards issued by Armenian commercial banks (unified cards payment system ArCa and international cards system).<sup>52</sup> Based on the gross number of cards issues by June 2012 (1,133,000), the average Armenian citizen holds 0.35 cards. In South Korea or the U.S., payment card penetration is 4-5 per person.

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<sup>48</sup> Credit CARD Act of 2009: [http://en.wikipedia.org/wiki/Credit\\_CARD\\_Act\\_of\\_2009](http://en.wikipedia.org/wiki/Credit_CARD_Act_of_2009)

<sup>49</sup> Merchant account: [http://en.wikipedia.org/wiki/Merchant\\_account](http://en.wikipedia.org/wiki/Merchant_account)

<sup>50</sup> <http://www.arlis.am/DocumentView.aspx?docid=22683>

<sup>51</sup> Payment Gateways, Merchant Processors, and Bank Accounts (June, 2011)

<http://www.practicalecommerce.com/blogs/post/845-Payment-Gateways-Merchant-Processors-and-Bank-Accounts>

<sup>52</sup> CBA Annual Bulletin 2011: [http://www.cba.am/Storage/EN/publications/statistics/vich\\_tex/vich\\_tex\\_12\\_eng.pdf](http://www.cba.am/Storage/EN/publications/statistics/vich_tex/vich_tex_12_eng.pdf)



- **Recommendation:** the GOA should consider separate research in order to identify the barriers for low level of payment cards penetration in Armenia.

**Table 6: Cards network indicators in Armenia**

3. Cards in circulation							
	2007	2008	2009	2010	2011	2012 (Jan-Jun) <sup>53</sup>	Penetration rate in population
ArCa	142482	200190	282164	306070	391936	435000	13.3
Visa	139280	165894	201589	269771	363691	439000	13.4
Master	23665	47769	61108	115943	181455	217000	6.6
Other*	22425	40504	34570	37514	37829	42000	1.3
TOTAL	327852	454357	579431	729298	977436	1 133 000	34.6

\* HSBC Debit, AMEX, DINERS CLUB and others.

## 6. E-money

**Electronic money**<sup>54</sup> (also known as e-currency, e-money, electronic cash, electronic currency, digital money, digital cash, digital currency, cyber currency) is money or scrip that is only exchanged electronically. Typically, this involves the use of computer networks, the Internet and digital stored value systems. Electronic funds transfer (EFT), direct deposit, digital gold currency and virtual currency, are all examples of electronic money. It is also a collective term for financial cryptography and the technologies enabling it. E-money can also be stored on (and used via) mobile phones. With e-cash, consumers are more comfortable with transactions over the Internet as it is a one-time transaction that cannot be traced back to the user, whereas with credit cards, hackers can obtain information on the card holder and commit fraud.

**EU Regulation:**<sup>55</sup> The new E-Money Directive (2009/110/EC) (EMD)<sup>56</sup> aims to enable new, innovative and secure electronic money services to be designed, provide market access to new companies, and foster real and effective competition between all market participants. This should benefit consumers, businesses and the wider European economy. The directive focuses on modernizing EU rules on electronic money, especially bringing the prudential regime for electronic money institutions, into line with the requirements for payment institutions in the Payment Services Directive.<sup>57</sup>

<sup>53</sup> CBA Quarterly Bulletin Banber: 2012 (2<sup>nd</sup> quarter):

<http://www.cba.am/Storage/AM/downloads/parberakan/statistics/banber/Banber2-12.pdf>

<sup>54</sup> E-Money: [http://en.wikipedia.org/wiki/Electronic\\_money](http://en.wikipedia.org/wiki/Electronic_money)

<sup>55</sup> E-Money Regulation in EU: [http://ec.europa.eu/internal\\_market/payments/emoney/index\\_en.htm](http://ec.europa.eu/internal_market/payments/emoney/index_en.htm)

<sup>56</sup> E-Money Directive: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0110:EN:NOT>

<sup>57</sup> Payment Services Directive: [http://ec.europa.eu/internal\\_market/payments/framework/index\\_en.htm](http://ec.europa.eu/internal_market/payments/framework/index_en.htm)



## 7. Mobile Payments

Mobile payment,<sup>58</sup> also referred to as mobile money, mobile money transfer, and mobile wallet generally refer to payment services operated under financial regulation and performed from or via a mobile device. Financial institutions, credit card companies, Internet companies and a number of mobile communication companies have implemented mobile payment solutions. In developing countries, mobile payment solutions have been deployed as a means of extending financial services to the community known as the “unbanked<sup>59</sup>.”

### Recommendations

The GOA should consider separate research so as to gain a picture of mobile payment readiness in the country.

Regulation and Policy amendments should be considered in the spheres of consumer protection, privacy and data protection, telecommunications, financial regulation, competition law, convergence of different regulatory areas, user security issues, handling deposits, and cross-border transfers.

## 8. E-Banking

Online banking<sup>60</sup> (or E-banking) allows customers of a financial institution to conduct financial transactions on a secure website operated by the institution, which can be a retail or virtual bank, credit union or building society. It may include any transactions related to online usage. Driven by the continuous growth of e-commerce and its increasing share of retail spending, banks should put more effort towards the online channel, to keep up with consumer demand for convenience and security.

## 9. Online Banking enabled Payments (OBeP)

**EU Practice – MyBank:** In Europe, the banks behind the MyBank<sup>61</sup> initiative have an opportunity to regain a position in the online payment landscape. MyBank is building on its customer base and trust, two undeniable strong points of banks. The European Central Bank has always strongly supported the emergence of SEPA-wide online e-payment solutions, such as those that already exist at the national level, for example in Germany, Austria and the Netherlands. It seems that MyBank, the e-authorization scheme being developed by the European Banking Association (EBA), finally presents such a solution. The MyBank project was launched in 2011. The new service will be made available for banks and licensed payment institutions, in line with the Payment Services Directive and the relevant regulatory requirements. Banks and their customers will be able to expand their businesses in the e-commerce market via the SEPA-wide service based on the pan European interbank payment infrastructure.

MyBank is a Europe-wide OBeP service which enables customers to pay for online purchases through their familiar online banking interface. To pay for a transaction, customers will select the MyBank button among the payment methods offered by their e-merchant. Customers will then choose their bank and will be redirected to their bank’s online banking portal, where they log onto their account with their regular access data. They will find the details of their purchase displayed in

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<sup>58</sup> Mobile payment: [http://en.wikipedia.org/wiki/Mobile\\_payment](http://en.wikipedia.org/wiki/Mobile_payment)

<sup>59</sup> See Appendix 6 for the Models for mobile payments and mobile payment service provider models.

<sup>60</sup> Online Banking: [http://en.wikipedia.org/wiki/Online\\_banking](http://en.wikipedia.org/wiki/Online_banking)

<sup>61</sup> MyBank: <https://www.mybankpayments.eu/>

the online banking interface and will only need to authorize the transaction to initiate the payment. The e-merchant will be immediately notified once the transaction has been authorized.

**Recommendation:** The GOA should consider starting negotiations for conjoining the Armenian banks to the MyBank initiative. This will help to build confidence for Armenian customers and help Armenian e-merchants to have easy access to European customers.

**Armenia's Case:** The CBA's "Possible Developments in Armenian Banking System"<sup>62</sup> paper is based on banks' Development Strategy Plans. The section "New Services and Technologies" details the following anticipated Payments Settlement activities by Armenian banks within 2012-2014:

- Distance banking services (e-banking, e-card banking, m-banking, SMS-Banking, and bank-client).
- Membership to money transfer systems; membership to international payment system.
- New services through payment cards; new payment cards; new smartcards.
- Establishment of own processing system.

**Recommendation:** The GOA should consider separate research so as to identify barriers for development and diffusion of E-banking<sup>63</sup> in Armenia.

## 10. Branchless banking

Branchless banking<sup>64</sup> is a distribution channel strategy used for delivering financial services without relying on bank branches. While the strategy may complement an existing bank branch network for giving customers a broader range of channels through which they can access financial services, branchless banking can also be used as a separate channel strategy that entirely forgoes bank branches.

Examples of branchless banking technologies are the Internet, automated teller machines (ATMs), POS devices, EFTPOS devices and mobile phones. Each of these technologies serve to deliver a set of banking services and are part of distribution channels that may be used either separately or in conjunction to form the overall distribution channel strategy.

**Recommendation:** Branchless banking is a useful tool for the financial inclusion of many disadvantaged and rural groups to affordably access financial services. Later on they can easily be trained to also become users of e-commerce through their accounts. GOA should consider separate research to find out barriers for branchless banking practices development in Armenia. For the research, CGAP has developed useful tools.

## 11. Mobile Banking

Mobile banking (M-Banking) is one of supportive mechanisms for the diffusion of e-commerce in society. Through m-banking, customers can take money from their banking accounts and update their e-payment accounts for making purchases on the Internet or in a mobile environment.

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<sup>62</sup> Possible Developments in Armenian Banking System:

<http://www.cba.am/AM/panalyticalmaterialsresearches/Banks%20Strategy%202012-2014.pdf>

<sup>63</sup> Understanding the Adoption of Electronic Banking in China (SherahKurnia, FeiPeng, Yi Ruo Liu, 2009)

<sup>64</sup> Branchless banking: [http://en.wikipedia.org/wiki/Branchless\\_banking](http://en.wikipedia.org/wiki/Branchless_banking)

M-banking<sup>65</sup> is a term used for performing balance checks, account transactions, payments, credit applications and other banking transactions through a mobile device. Mobile banking and mobile payments are often, incorrectly, used interchangeably. Mobile banking involves using mobile devices gain to access financial services. Mobile payments, on the other hand, may be defined as the use of mobile devices to pay for goods or services either at the point of purchase or remotely. Mobile banking has until recently (2010) most often been performed via SMS or the Mobile Web. The rapid growth of smart phones has led to increasing use of special client programs or “apps,” downloaded to the mobile device.

M-banking is used in many parts of the world with little or no infrastructure, especially in remote and rural areas. This aspect of mobile commerce is also popular in countries where most of their population is unbanked. In such places, banks typically can only be found in big cities, and customers have to travel hundreds of miles to the nearest bank.<sup>66</sup>

### Regulatory challenges<sup>67</sup>

Telecommunications, financial sector, and competition regulators sometimes address overlapping issues, and m-banking providers must navigate the regulatory requirements from all three regulators to ensure that their services comply with all relevant laws and regulations. Perhaps the most important potential change to the regulatory regime with respect to m-banking is the necessity for closer cooperation and coordination among the relevant regulators. Other regulatory issues relating to m-banking include consumer protection; interoperability; roaming; SIM registration/know your customer regulations; universal access; accounting; tariff regulation; and law enforcement access and compliance, and education on m-banking.

**Recommendation:** The GOA should consider new research to identify barriers to m-banking practices development in Armenia.

## IV. CONSUMER AND BUSINESS ADOPTION

Consumers are drivers of the digital economy. Being provided with the fast spreading and timely information on the Internet and mobile devices, consumers are more knowledgeable of product and service characteristics and able to make meaningful purchases. Moreover, their decisions drive competition towards lower product prices and higher quality. Therefore, consumer issues in the digital economy should be the highest priority for the e-commerce policy of any government.

But although the consumer benefits are well-defined, consumers’ acceptance of e-commerce is still in doubt. Below are some of the factors affecting the adoption of e-commerce by consumers in general, and details of the situation in Armenia together with some recommendations for GOA.

### 1. Factors Affecting Adoption of E-Commerce by Consumers

#### Return Policy

The comScore and UPS study<sup>68</sup> (more than 3,100 U.S. online shoppers, Feb. 2012) states that 63 percent of online shoppers look at a retailer’s return policy before making a purchase. Nearly half

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<sup>65</sup> Mobile Banking: [http://en.wikipedia.org/wiki/Mobile\\_banking](http://en.wikipedia.org/wiki/Mobile_banking)

<sup>66</sup> See Appendix 7 for M-banking business models

<sup>67</sup> Trends in Telecommunication Reform 2012: Smart Regulation in a Broadband World (ITU, May 2012)

<sup>68</sup> Improving Product Returns Presents Biggest Opportunity for Retailers Wishing to Increase Online Shopping Satisfaction

said that they would shop more often and recommend a retailer with an easier returns policy, indicating its value in driving customer loyalty.

**Recommendation:** the GOA should review return policy related provisions in the appropriate legislation. It is worth mentioning that easy for consumer to return policy requirements will also help CEP (Courier, Express, Parcel) companies to earn more money and make efficient investments.

### Insurance

Companies must have insurance coverage for defective products, problems with delivery or production and customer payment fraud.

### Trust

Confidence and trust is an essential requirement for secure electronic trading. The question of trust is even more prominent in the virtual world than it is in the real world. The geographical separation of buyers and sellers, often coupled with a lack of real-time visual or oral interaction, creates a barrier to E-commerce adoption.

Trust could be affected by the regulation, general business moral, and technology and communication infrastructure of the market. The task of building an environment of trust in the e-economy is complex. These matters are addressed in the context of Armenia below.

**Legislation:** the Government should enact legislation for regulatory frameworks in areas such as e-commerce; e-transactions/e-payments, e-contracts; cyber security laws, e-currencies; certification and cryptography; personal data protection/arbitration; and protection of intellectual property rights and enforcement of copyright and related rights; protection and enforcement of trademarks.

### Required information on e-commerce websites<sup>69</sup>

- **Product details:** Products should be presented with detailed information concerning their physical characteristics (size, weight, height, materials used).
- **Testimonials and reviews:** Through interactive tools, customers should be encouraged to review the products they buy and to write recommendations about their experience in buying from business.
- **Details at checkout:** At every step of the checkout process it is important that customers know exactly what is in their shopping cart. They will feel more confident in completing the purchase when checkout screens clearly show each item number, the item cost and product details - such as color and size - so they can verify that everything is correct. There should be an option to change quantities and items at the checkout.
- **Personal Data Policy:** Business should provide information for every piece of data that is collected from a customer and make sure to clearly state how this information is to be used. If

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[http://www.comscore.com/Press\\_Events/Press\\_Releases/2012/6/Improving\\_Product\\_Returns\\_Presents\\_Biggest\\_Opportunity\\_for\\_Retailers](http://www.comscore.com/Press_Events/Press_Releases/2012/6/Improving_Product_Returns_Presents_Biggest_Opportunity_for_Retailers)

<sup>69</sup> 7 Ways to Help Customers Trust Your Ecommerce Website (August, 2010):

<http://www.ecommerce-guide.com/solutions/design/article.php/3898046/7-Ways-to-Help-Customers-Trust-Your-Ecommerce-Website.htm>

a business is going to sell it to an affiliate company needs to inform customers about it and seek their approval.

- **Return Policy:** If items are broken, if they don't fit or if the customer just plainly wants to send it back the business should make it clear what its return policy is and how a customer should go about returning the item.
- **Contact Information** is the positive sign for customers that they can get after-sale support.
- **Security Policy:** The business should display its security policy, put security trustmarks (e.g. McAfee Secure), and provide information that its SSL version is up-to-date.

**Recommendation:** Amendments in appropriate legislation should be initiated to ensure that e-merchants are providing the following information (product details, testimonials and reviews, details at checkout, personal data policy, return policy, contact information, security policy) on their websites.

**Privacy:** Privacy is defined as the mechanism by which e-commerce users ensure that they retain control over their own data. There are a number of problems underlying the concerns involving privacy for both businesses and consumers. Consumers' data can be stored and used for advertising purposes (spam, sms) and for crime (hacking of credit card information).

### Financial Mechanisms

- **Credit History:** Before entering into a commercial arrangement with a stranger, access to information about credit history, annual turnover, and previous trading associates would be desirable. Firms could then assess the legitimacy and creditability of a potential trading partner. These preconditions are also applicable for building trust in e-marketplaces.
- **Cash on delivery:** Consumers worried that online firms were fraudsters, or that their credit cards would be abused, or that purchases would get swapped for counterfeits during shipment. In China, Alibaba overcame this by creating Alipay, a clever online arrangement that (unlike eBay's system) releases payments to vendors only after clients confirm that they are satisfied.<sup>70</sup>

**Recommendation:** CBA should initiate a brand test for ArCa and thereafter implement brand awareness actions for ArCa. The German study "Confidence-building measures in e-commerce put to the test" confirms that the offer of payment method is linked to the trustworthiness of online shops.<sup>71</sup>

**Infomediaries:** An infomediary<sup>72</sup> works as a personal agent on behalf of consumers to help them take control over information gathered about them for use by marketers and advertisers. Infomediaries operate on the assumption that personal information is the property of the individual described, not necessarily the property of the one who gathers it. The infomediary business model recognizes that there is value in personal data, and the infomediary seeks to act as a trusted

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<sup>70</sup> The great leap online (Nov. 2011)

<http://www.economist.com/node/21540260?zid=291&ah=906e69ad01d2ee51960100b7fa502595>

<sup>71</sup> ECC Handel Study: the more expensive the product the more important the payment process (31 July 2012)

<http://www.e-commercefacts.com/research/2012/07/importance-of-payment-pro/index.xml>

<sup>72</sup>Infomediary: <http://en.wikipedia.org/wiki/Infomediary>

agent, providing the opportunity and means for clients to monetize and profit from their own information profiles.<sup>73</sup>

## Trustmark

An E-commerce trustmark<sup>74</sup> is a badge displayed on a website to indicate that the website business has been shown to be trustworthy by the issuing organization. A trustmark gives confidence to customers and indicates to them that it is safe to do business with the web site displaying it. When clicking an E-commerce trustmark, a browser will usually display the company's website information as well as the validity period of the certificate. The certificate is used to encrypt communication from user computers to the company's website. Having a valid certificate ensures that all communications are secure and protected.

## Comparing Online Trust Seals<sup>75</sup>

Trust seals fall into three categories: privacy seals, security seals, and reputation and reliability seals.

**Privacy Seals:** Privacy seals verify that a website has strong information privacy practices outlined in its privacy policy, and can also indicate that a site is subject to scans to detect privacy vulnerabilities.

- **TRUSTed Websites:** The TRUSTe Websites seal indicates that TRUSTe has reviewed a website's privacy policy and it adheres to TRUSTe's privacy program requirements. The seal also indicates that a website participates in TRUSTe's privacy dispute resolution services and is subject to site privacy scans.
- **Reputation & Reliability Seals:** Reputation and reliability seals verify that a website is operated by a legitimate business entity and/or that a website has sound business practices as determined by consumers or a third-party.
- **BBB Accredited Business Seal:** A BBB accredited business seal confirms a business' BBB accredited status and a website's adherence to the BBB Code of Business Practices. <http://www.bbb.org/us/>
- **buySAFE Seal:** The buySAFE Seal confirms that a website has undergone buySAFE certification to assess trustworthiness and reliability and provides guarantees for purchase terms of sales up to \$25,000, identity theft protection for 30 days, and 30 day price drop protection up to \$100. <http://www.buysafe.com>
- **Bizrate Customer Certified Seal:** The Bizrate Customer Certified Seal confirms that a website has a rating of 'satisfactory' or better on all twelve Bizrate metrics of quality and service and also signifies that a website solicits customer feedback and ratings directly via Bizrate surveys. [http://merchant.shopzilla.com/oa/customer\\_ratings](http://merchant.shopzilla.com/oa/customer_ratings)
- **Shopping.com's Trusted Store Seal:** Shopping.com's Trusted Store Seal confirms that a website has an average customer rating of four stars or more and at least 60 customer

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<sup>73</sup> Start-Ups Seek to Help Users Put a Price on Their Personal Data: [http://www.nytimes.com/2012/02/13/technology/start-ups-aim-to-help-users-put-a-price-on-their-personal-data.html?\\_r=1](http://www.nytimes.com/2012/02/13/technology/start-ups-aim-to-help-users-put-a-price-on-their-personal-data.html?_r=1)

<sup>74</sup>E-commerce Trustmark: <http://www.techopedia.com/definition/1491/e-commerce-trustmark>

<sup>75</sup> Comparing Online Trust Seals: <http://www.truste.com/consumer-privacy/comparing-web-privacy-seals>



reviews. The seal also confirms that a website uses Shopping.com surveys to solicit feedback directly from consumers. <http://www.shopping.com/>

- Google Trusted Stores<sup>76</sup>, which launched in 2012, allows qualifying merchants to display a Google badge on their website identifying them as a trusted store.

**Security Seals:** Security seals verify that a website uses technology to protect your personal information (like SSL encryption) and/or it is subject to scans to detect the presence of malicious entities (like malware) or site vulnerabilities (like cross-site scripting).

- Verisign Trust Seal: The Verisign Trust Seal verifies the identity of a website's owner and operator and confirms that the site is subject to daily malware scans and uses verified data encryption (SSL). <http://www.verisign.com>
- McAfee Secure Trustmark: The McAfee Secure Trustmark confirms that a website is subject to daily malware and vulnerability scans. <http://www.mcafeesecure.com>
- ComodoHackerProof Seal: The ComodoHackerProof Seal confirms that a website is subject to daily malware and site vulnerability scans as well as quarterly PCI compliance scans. <http://www.comodo.com>
- GeoTrust SSL Certificates: The GeoTrust SSL Certificate indicates that a website uses verified data encryption (SSL). <http://www.geotrust.com>

### Recommendations for trustmarks

SMEDNC or ADA or ArmCCI can initiate support to Armenian e-merchants training and helping them to meet the requirements of well-known trustmarks.

The GOA should interact with well-known trust marks of other countries and sign an agreement for using a trustmark with a GOA guarantee for Armenian e-commerce as well.

The GOA should create its own trustmark organization with TrustArmenia brand. This body will ensure that E-commerce hallmarks meet a consistent standard. The presence of a TrustArmenia hallmark on a website will offer users the re-assurance that they are dealing with an authentic, trustworthy trader who respects the consumer's privacy; follows good information security practices; does not display any illegal or immoral content and has a clear policy concerning its contracts and dispute resolution.

### Business Adoption

Multinational corporations (MNCs) drive the process of e-commerce diffusion across global supply chains. MNCs bring global competition to local markets and provide links to global production networks, as well as transferring technology and knowledge to local firms on how to conduct e-commerce.

- **Armenia's Case:** E-commerce MNCs (eBay, Amazon, Rakuten, etc.) are not present in Armenia. MNCs from other industries are represented only with sales representatives who mainly conduct brick and mortar business models.

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<sup>76</sup> Google Trusted Stores: <http://www.google.com/trustedstores/>

## Cross-border shopping<sup>778</sup>

There is a clear growth opportunity in cross-border e-commerce, which is being missed because of the existence of barriers that affect both consumers and sellers. From the point of view of foreign consumers, Armenian e-commerce websites present the following barriers: Language; concerns about fraud; VAT and other tax issues; higher prices for cross-border deliveries in comparison to comparable domestic delivery services; information: legal issues such as different complaint/redress procedures for delayed, damaged or lost items, and about procedures to return unwanted goods.

### Recommendations

- GOA should stimulate the semi-governmental business support organizations to start negotiations with worldwide e-commerce companies to involve Armenian e-commerce companies into their networks. Among these worldwide marketplaces are eBay, Amazon, and Rakuten. There is also such type of new initiatives from MasterCard in face of MasterCard Marketplace: <http://marketplace.mastercard.com/#homeView>. Armenian businesses can receive payments from MasterCard card holders through the ArCa processing system. Such business support organizations should consider stimulating creation of e-commerce association/s, to become the strategic interface between Government and the e-commerce enabling industries.<sup>79</sup>
- Armenia should interact with United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT)<sup>80</sup> as the latter supports activities dedicated to improving the ability of business, trade and administrative organizations, from developed, developing and transition economies, to exchange products and relevant services effectively.
- GOA should consider implementation of Single Window practices.<sup>81</sup>
- GOA should actively co-operate with the UN Economic and Social Commission for Asia and the Pacific (UN/ESCAP). ESCAP's long-standing program on trade facilitation technical assistance provides advisory services to developing countries in the region, with a special focus on least developed countries (LDCs), landlocked developing countries (LLDCs), and small island developing states (SIDSs).
- The GOA should review all Paperless Trading Individual Action Plans<sup>82</sup> of APEC Members and identify niches where Armenia can take actions for paperless trade.

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<sup>77</sup> IPC Cross-Border E-commerce Report (International Post Corporation, 2010)

<http://www.ipc.be/~media/Documents/PUBLIC/Markets/IPC%20Cross-Border%20E-commerce%20Report.ashx>

<sup>78</sup> Online Cross-Border Mystery Shopping (ECCN, September 2011):

[http://ec.europa.eu/consumers/ecc/docs/mystery\\_shopping\\_report\\_en.pdf](http://ec.europa.eu/consumers/ecc/docs/mystery_shopping_report_en.pdf)

<sup>79</sup> See Appendix 5 for e-commerce associations worldwide.

<sup>80</sup>United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT): <http://www.unece.org/cefact.html>

<sup>81</sup> Single Window – Best Practice and the Way Forward (February, 2011). In 2005 The Recommendation and Guidelines on establishing a Single Window, UN Economic Commission for Europe UN/CEFACT Recommendation 33 defines “a *single window*” as “a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfill all import, export and transit-related regulatory requirements”.

[http://www.uncitral.org/pdf/english/colloquia/EC/Ponten\\_SW\\_Best\\_Practice\\_and\\_the\\_Way\\_Forward.pdf](http://www.uncitral.org/pdf/english/colloquia/EC/Ponten_SW_Best_Practice_and_the_Way_Forward.pdf)

<sup>82</sup>Paperless Trading Individual Action Plan: <http://www.apec.org/Groups/Committee-on-Trade-and-Investment/Electronic-Commerce-Steering-Group/Paperless-Trading-Individual-Action-Plan.aspx>



## V. LEGISLATION AND REGULATION ENVIRONMENT

### General Overview and Institutional Framework

E-commerce development depends both on a country's overall legal framework and specific laws governing the Internet economy, i.e. laws having a direct impact on the use of digital technology for purposes of informing, communicating and transacting business. The following are the major issues traditionally addressed in e-commerce laws:

- Electronic contracting
- Electronic signature
- Electronic payments
- Dispute resolution
- Jurisdiction and applicable law
- Consumer protection
- Cybercrime
- Intellectual property rights.<sup>83</sup>

The Information Technologies and Innovation Department of the MoE is the principal entity in Armenia responsible for designing and implementing the e-commerce development policy. The IT Development Support Council (ITDSC) headed by the Prime Minister has also been charged with promoting e-commerce. It has recently initiated several actions in that area, namely instructing the MTC to cooperate with HayPost with a view to preparing an action plan for developing e-commerce<sup>84</sup>; proposing the UITE to cooperate with the CBA, the MTC, the MoF and the MoE in order to identify and resolve problems hindering the development of e-commerce<sup>85</sup>; expressing intention to set up an interagency committee consisting of representatives of the MoE, the MoF, the MTC, the State Revenue Committee, the PSRC, HayPost and other interested parties and instructing the committee to discuss problems faced by e-commerce and submit suggestions for overcoming these problems<sup>86</sup>; stating that all issues related to e-commerce shall be discussed separately with the Prime Minister<sup>87</sup>.

Among representatives of the industry the UITE has been advocating, with the support of Counterpart International, legal reforms in the area of e-commerce<sup>88</sup>

The CBA has assumed the responsibility for protection of consumers in the financial sector and established for that purpose a Consumer Rights Protection and Market Conduct Division with a

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<sup>83</sup>Legal Implications of E-Commerce: Basic Issues, Initiatives and Experiences in Asia (UN ESCAP, May, 2007) <http://www.unescap.org/tid/publication/swp207.pdf>

<sup>84</sup> April 8, 2011 session (in Armenian) [http://gov.am/u\\_files/file/texekatvakan-xorh/TTZAX%2008\\_04\\_11.pdf](http://gov.am/u_files/file/texekatvakan-xorh/TTZAX%2008_04_11.pdf)

<sup>85</sup> April 8, 2011 session (in Armenian) [http://gov.am/u\\_files/file/texekatvakan-xorh/TTZAX%2008\\_04\\_11.pdf](http://gov.am/u_files/file/texekatvakan-xorh/TTZAX%2008_04_11.pdf)

<sup>86</sup> July 26, 2011 session (in Armenian) [http://gov.am/u\\_files/file/texekatvakan-xorh/TTZAX26\\_07\\_11.pdf](http://gov.am/u_files/file/texekatvakan-xorh/TTZAX26_07_11.pdf)

<sup>87</sup> April 17, 2012 session (in Armenian) [http://gov.am/u\\_files/file/texekatvakan-xorh/17\\_04\\_2012.pdf](http://gov.am/u_files/file/texekatvakan-xorh/17_04_2012.pdf)

<sup>88</sup> Armenian e-commerce legislation to be drafted in 2012: <http://www.panarmenian.net/eng/news/96446/>

separate website ([www.abcfinance.am](http://www.abcfinance.am)) containing an educational section on e-commerce, Internet purchases and security.<sup>89</sup>

## Recommendations

To ensure effective coordination of activities of various public and private stakeholders it is advisable to establish an e-commerce development center or strengthen the capacities of an existing Ministry Department within the GOA to have the following responsibilities:

- Developing a national e-commerce policy dealing with all aspects of e-commerce adoption by all stakeholders;
- Involve representatives of private sector, wider public sector and consumer groups in decision-making through a council
- Publishing periodic reports detailing progress in achievement of the goals and milestones laid out in the e-commerce policy;
- Publishing e-commerce guides for businesses;
- Researching international best practices;
- Providing a single point of contact for the e-commerce industry and otherwise coordinating the work of various departments;
- Identifying and tackling barriers to competition in e-commerce markets;
- Ensuring that e-commerce benefits are available to all sections of society, including disadvantaged groups;
- Preparing proposals for attracting foreign investment in the e-commerce sector;
- Supporting development of educational and training materials on e-commerce;
- Engaging financial institutions, NGOs and media to communicate the benefits of e-commerce to businesses and consumers;
- Ensuring international cooperation, seeking advice of international and foreign organizations;
- Protecting consumer rights, setting up a hotline.

## Electronic Contracts

Electronic contracting raises many legal questions, including whether an electronic contract is legally binding and to what extent, or whether it can be used as evidence in the event of dispute. These issues have been addressed by the United Nations Commission on International Trade Law (UNCITRAL)<sup>90</sup>, namely its Working Group IV<sup>91</sup>. The UNCITRAL produced a Model Law on

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<sup>89</sup> ABC Finance: E-Commerce section (in Armenian): [http://www.abcfinance.am/am-fin\\_differ\\_cond\\_1.html](http://www.abcfinance.am/am-fin_differ_cond_1.html)

<sup>91</sup> UNCITRAL's Working Group IV (1997 – to present)  
[http://www.uncitral.org/uncitral/en/commission/working\\_groups/4Electronic\\_Commerce.html](http://www.uncitral.org/uncitral/en/commission/working_groups/4Electronic_Commerce.html)

Electronic Commerce<sup>92</sup> in 1996 “to offer national legislators a set of internationally acceptable rules” as to how legal obstacles to the use of electronic communication may be removed and how a more secure legal environment for electronic commerce may be created. The model law also contains rules for electronic commerce in specific areas, such as carriage of goods.

Armenia has not enacted a law on electronic commerce.

## Recommendations

- Enact a comprehensive e-commerce law according to the UNCITRAL Model Law.
- Initiate a separate research on issues of e-commerce legislation (missing or obsolete provisions) and prepare appropriate drafts for adoption. For this purpose the GOA could benefit from the technical assistance of the UNCTAD’s ICT and Law Reform Program.<sup>93</sup>
- Considering signature of multilateral or bilateral international agreements covering, *inter alia*: (i) protection of privacy of individuals in relation to the processing and dissemination of personal data; (ii) protection of confidentiality of individual records and accounts; (iii) measures to prevent and fight deceptive and fraudulent practices or to deal with the effects of a default on contracts; (iv) measures against unsolicited communications; and (v) protection of public morals and the younger generation.

## Electronic Signatures

E-signatures raise several questions, such as whether e-signatures comply with traditional requirements for a signature, whether and under what circumstances they should be trusted.

In 2001, the UNCITRAL produced a Model Law on Electronic Signatures<sup>94</sup> with a purpose to assist states in enhancing their legislation governing the use of modern authentication techniques and in establishing a modern, harmonized and fair legislative framework to address more effectively the issues of e-signatures. The UN Convention on the Use of Electronic Communications in International Contracts<sup>95</sup> was adopted in 2005 and aims at facilitating the use of electronic communications in international trade by assuring that contracts concluded and other communications exchanged electronically are as valid and enforceable as their traditional paper-based equivalents.

In Armenia the Law on Electronic Document and Signature<sup>96</sup> was adopted in 2004. However, Armenia has not ratified the UN Electronic Communications Convention.

**Recommendation:** Initiate the ratification of the UN Electronic Communications Convention and make corresponding amendments to the Law on Electronic Document and Signature.

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<sup>92</sup>UNCITRAL Model Law on Electronic Commerce with Guide to Enactment with additional article 5 adopted in 1998

[http://www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/1996Model.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/1996Model.html)

<sup>93</sup> UNCTAD’s ICT and Law Reform Programme: <http://r0.unctad.org/ecommerce/ecomlaw.htm>

<sup>94</sup>UNCITRAL Model Law on Electronic Signatures with Guide to Enactment - 2001

[http://www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/2001Model\\_signatures.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2001Model_signatures.html)

<sup>95</sup>UN Convention on the Use of Electronic Communications in International Contracts:

[http://www.uncitral.org/uncitral/en/uncitral\\_texts/electronic\\_commerce/2005Convention.html](http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2005Convention.html)

<sup>96</sup> Law on Electronic Document and Signature:

[http://lexbox.am/uploads/PDF/Ayl/Other/Law\\_on\\_e\\_docs\\_and%20e\\_signatures.pdf](http://lexbox.am/uploads/PDF/Ayl/Other/Law_on_e_docs_and%20e_signatures.pdf)

## Electronic Payments

In November 2004 the National Assembly adopted the Law “On Payment and Settlement Systems and Payment and Settlement Organizations,”<sup>97</sup> which entered into force on June 28, 2005. The objectives of this law are to regulate and administer the activities of payment and settlement systems, and the procedure and conditions for supervision of these activities. The CBA has also adopted about 30 legal acts<sup>98</sup> to enhance the regulation of payment and settlement systems and their participants. Two of them, adopted in 2010, aim at regulating the issuance<sup>99</sup> and circulation<sup>100</sup> of electronic money.

Participants of the payment systems in Armenia are banks and non-bank financial organizations. Non-bank financial institutions are payment and settlement organizations whose activities are regulated by the Law “On Payment and Settlement Systems and Payment and Settlement Organizations,” namely, money remittance organizations, processing and clearing organizations, and electronic money issuers.

The CBA is invested with the power to regulate and supervise the payment and settlement systems. The CBA exercises this power by participating in drafting laws regulating the payment and settlement systems, enacting other legal acts regulating this area, providing for reporting requirements for banks and other organizations.

### Recommendations:

- Harmonize the Law on Payment and Settlement Systems and Payment and Settlement Organizations with the EU Payment Services Directive (2007/64/EC), in particular with regard to the negative scope of the law.
- Harmonize the CBA regulations on e-money issuance with the EU E-Money Directive (2009/110/EC).

## Consumer Protection

The Internet allows any type of “property” sale, be it illegal, immoral or simply nonexistent. In addition to the E-Commerce Directive the EU enacted the Distance Selling Directive,<sup>101</sup> which specifies that the supplier has to provide the consumer with clear and precise information regarding:<sup>102</sup>

- The supplier’s identity and address;
- The characteristics and prices of products and services sold;
- Transportation cost and duration;
- Details regarding the possibility of returning the products;

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<sup>97</sup>RA Law “On Payment and Settlement System and Payment and Settlement Organizations”

English version (not updated with last amendments) [http://www.cba.am/Storage/EN/laws/payment\\_law.pdf](http://www.cba.am/Storage/EN/laws/payment_law.pdf)

Armenian version: <http://www.arlis.am/DocumentView.aspx?docid=67780>

<sup>98</sup> Payment and Settlement Systems: Legislative acts (Armenian only) <http://www.cba.am/am/SitePages/psregulation.aspx>

<sup>99</sup> Regulation for emission of E-Money in Armenia: <http://www.cba.am/Storage/AM/downloads/kanon/kan-16.1.pdf>

<sup>100</sup> Regulation for circulation of E-Money in Armenia: <http://www.cba.am/Storage/AM/downloads/kanon/kan-16.2.pdf>

<sup>101</sup> EU Distance Selling Directive: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31997L0007:EN:NOT>

<sup>102</sup> See Appendix 8 for the International practice and efforts aimed for consumer protection.

- General conditions related to the commercial transaction;
- Payments and delivery methods; and
- Period of validity of the offer or price, if necessary.

Currently the EU is developing action plans for online gambling and online sale of medicines.

Armenia does not have a separate law on protection of e-consumers. The Law on Advertising<sup>103</sup> does not provide specific requirements for online advertisement.

### Recommendations:

- Amendments to legislation should be initiated to ensure that e-merchants are providing sufficient information (product details, testimonials and reviews, details at checkout, personal data policy, return policy, contact information, security policy) on their websites.
- GOA should consider legislation amendments in the area of chargeback practices to protect the rights of merchants and consumers.
- GOA should distinguish between fraudulent and untargeted commercial communications (spam) and commercial email, prohibiting spam while recognizing that commercial email can play a legitimate and significant role in the emergence and growth of electronic commerce. To that end, an "opt-out" approach should be adopted as the most effective means of balancing consumer trust and choice for legitimate commercial email.

### Cybercrime

Armenia does not have a specific law on cybercrime. Nevertheless, in 2006 Armenia ratified the European Convention on Cybercrime<sup>104</sup> and the Additional Protocol concerning the criminalization of acts of racist and xenophobic nature committed through the computer system. The National Security Service<sup>105</sup> has been selected as the coordinating body for cyber security.<sup>106</sup> The State Commission on Cyber Security performs monitoring and provides recommendations to the GOA. The Cyber Security Strategy of Armenia was approved by the GOA in 2009.<sup>107</sup> In 2012 the GOA approved the action plan for fighting against virus risks/dangers.<sup>108</sup>

Armenia is actively participating in the International Multilateral Partnership Against Cyber Threats (IMPACT),<sup>109</sup> which is well poised to help its partner countries track and overcome looming cyber threats. This is the cyber security unit of the United Nations' specialized agency - the International Telecommunication Union (ITU).

Within the structure of the Police there is a special unit responsible for fighting against high tech crimes. Another specialized body is the Department for Investigation by National Security Agencies and Cyber Crimes at the Prosecutor General Office.<sup>110</sup>

<sup>103</sup> RA Law on Advertising: [http://www.parliament.am/law\\_docs/250596HO55eng.pdf?lang=eng](http://www.parliament.am/law_docs/250596HO55eng.pdf?lang=eng)

<sup>104</sup>Convention on Cybercrime: <http://conventions.coe.int/Treaty/Commun/ChercheSig.asp?NT=185&CL=ENG>

<sup>105</sup>RA National Security Service: <http://www.snb.am/>

<sup>106</sup>GoA decree N 185 – U: <https://www.e-gov.am/gov-decrees/item/19127/>

<sup>107</sup>GOA adopted decree N ՆԿ-97-Ն

<sup>108</sup>Program of actions against virus risks/dangers: <https://www.e-gov.am/protocols/item/185/>

<sup>109</sup>IMPACT : <http://www.impact-alliance.org>

<sup>110</sup> Prescript N 15 of General Prosecutor: <http://www.genproc.am/am/46/item/7086/>

**Recommendation:** Consider adopting a law on cybercrime to enhance the coordination of activities among different enforcement bodies.

## Intellectual Property Rights

Materials protected by intellectual property laws are traded on Internet and, therefore, copyright and patent laws have to be adapted to new ICTs. The international copyright laws have been updated for the digital age through the WIPO<sup>111</sup> Copyright Treaty<sup>112</sup> (WCT) and the WIPO Performances and Phonograms Treaty (WPPT),<sup>113</sup> collectively known as the "WIPO Internet Treaties". The WIPO presents separate information on all intellectual property legislative actions per country, including Armenia.<sup>114</sup>

Armenia has enacted several laws in this area, including the Law on Trademarks (2010); the Law on Inventions, Utility Models and Industrial Designs (2008); the Law on Copyright and Related Rights of (2006); the Law on Trade Names of (1999); and the Law on the Legal Protection of Topographies of Integrated Circuits (1998).

## Data Protection

The EU has issued the Data Protection Directive,<sup>115</sup> aimed at sustaining the free movement of data and information within the EU, under the condition of protection of the individuals' fundamental rights and liberties. The Directive guarantees the confidentiality of electronic messages and forbids any kind of interception. It also provides that personal information may be collected and used only in specific, well explained and justified situations respecting the principles of transparency, legitimate purpose and proportionality. The transparency requirement ensures in particular that personal data can be processed only when the individual has explicitly consented to it; when processing is needed to enact a contract or to comply with legal obligations; when processing is needed to protect the vital interests of the data subject, or for reasons of public interest.

The Law on Personal Data has been in force in Armenia since 2002 and is the main legal act dealing with privacy and data protection. The EU Advisory Group to Armenia<sup>116</sup> has prepared recommendations for ensuring its compliance with relevant EU directives on Privacy and Data Protection.

**Recommendation:** Amend the Law on Personal Data to provide for more efficient enforcement and remedial rules and procedures.

## Postal Services

The RA Ministry of Transport and Communications (MTC) has been recognized by the Government to act as the authorized body in the postal network sector. The state policy in the field of postal network is implemented by the authorized body. Also, the authorized body shall support free and equal competition in the market of postal (courier) communication services.

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<sup>111</sup> WIPO: <http://www.wipo.int/portal/index.html.en>

<sup>112</sup>WIPO Copyright Treaty: <http://www.wipo.int/treaties/en/ip/wct/index.html>

<sup>113</sup>WIPO Performances and Phonograms Treaty: <http://www.wipo.int/treaties/en/ip/wppt/index.html>

<sup>114</sup> Armenia's IPR Legislation: <http://www.wipo.int/wipolex/en/profile.jsp?code=AM>

<sup>115</sup> EU Data Protection Directive: [http://ec.europa.eu/justice/data-protection/index\\_en.htm](http://ec.europa.eu/justice/data-protection/index_en.htm)

<sup>116</sup>Analysis of EU legislation on Personal Data Protection and recommendations for the Armenian legal and institutional framework:

<http://euadvisorygroup.am/sites/default/files/Policy%20Paper%20on%20Analysis%20of%20the%20EU%20legislation%20on%20Personal%20Data%20Protection.pdf>

The postal network comes under the public services regulatory sector. Regulation in public services sector is aimed at, among other things, contribution in the formation and development of competitive markets and encouraging effective use of resources.

According to quarterly reports<sup>117</sup> of the Postal Department of the MTC, amendments to the Law on Postal Communication are currently being prepared, and international best practices are being examined (EU Directives, laws of Estonia, Moldova, Ukraine, etc.).

## Recommendations

- It may be efficient to transfer the NRA (regulator) and NCA (competition) powers to the PSRC and charge it with ensuring compliance with EU directives, issuing licenses, hearing complaints, regulating tariffs, fostering competition, and collecting statistical data.
- Amend the Law on Postal Communication in order to harmonize it with the EU Postal Directive.<sup>118</sup>

## Taxation and Customs Regulations

The main problem of taxing e-commerce is related to jurisdiction. In case of indirect taxes, such as VAT, it is necessary to have rules on the place of taxation of products delivered electronically. In case of direct taxes it is necessary to have rules defining the tax jurisdiction in which income or profit has been earned where the underlying activity consists of services delivered on-line.

Tax rules shall be clearly understood by taxpayers and shall not constitute a barrier to e-commerce. At the same time the tax regime shall minimize losses of tax revenues given that e-transactions are more difficult to trace, particularly where the goods or service are delivered as well as ordered electronically, and it is difficult to determine the country in which income or profit has been earned, and thus to assess which country should collect the tax.

The goal of the taxation policy should be to avoid either the double-taxation or non-taxation and disparate treatment of offline and online transactions.

The State Revenue Committee<sup>119</sup> is the executive body responsible for tax collection and tax and customs administration in Armenia. There are no specific provisions on e-commerce in Armenian tax legislation.

Representatives of private sector, ArCa, UITE and the MoE reported that one of the major problems of e-commerce taxation is that merchants are not allowed to state prices in a currency other than AMD.<sup>120</sup> Taking deductions for products or services purchased online is another problem as tax authorities require purchase documents to bear the supplier's signature, which is not possible for online transactions.

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<sup>117</sup> Quarterly reports of MTC: <http://mtc.am/index.php?menu1=34&menu2=43>

<sup>118</sup> EU Postal Directive: [http://ec.europa.eu/internal\\_market/post/doc/legislation/2008-06\\_en.pdf](http://ec.europa.eu/internal_market/post/doc/legislation/2008-06_en.pdf)

<sup>119</sup> RA State Revenue Committee: <http://taxservice.am/>

<sup>120</sup> There is no e-commerce state policy in Armenia (29.11.2011)

[http://www.banker.am/news.php?lang=1&color=b&news\\_cat\\_id=15&news\\_id=16493](http://www.banker.am/news.php?lang=1&color=b&news_cat_id=15&news_id=16493)



Representatives of private sector, ArCa, UITE and the MoE reported that the major problems of customs clearance are the high prices for brokerage services and customs duties (e.g. AMD 5,000 for a small purchase) and card-related problems.<sup>121</sup> In addition, in case of exporting the custom clearance process required for getting a VAT refund hinders the delivery process.<sup>122</sup>

Article 105 of the Customs Code of Armenia exempts individuals from customs duties if the total customs value of the goods crossing the Armenian border does not exceed AMD 150,000 (one hundred and fifty thousand) and the total weight does not exceed 20 kilograms, provided that such goods are transported by international carriers according to regulations issued by the GOA. An individual is entitled to such an exemption only once every 180 days.

### Recommendation

- The State Revenue Committee should publish guidance for businesses explaining the tax treatment of domestic and cross-border e-commerce transactions...
- Consider other reforms in customs to streamline the customs valuation of goods in consideration of e-commerce specifics.

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<sup>121</sup>Progress in e-commerce in Armenia will reflect economic growth of the country UITE head says (12.12.2011)  
<http://telecom.arka.am/en/news/internet/9669/>

<sup>122</sup>E-commerce requires specific regulation (25.01.2012)  
[http://www.banker.am/news.php?lang=1&color=b&news\\_cat\\_id=15&news\\_id=16993](http://www.banker.am/news.php?lang=1&color=b&news_cat_id=15&news_id=16993)



## APENDIX 1

List of some links to e-commerce related statistics of the EU, U.S. and ASEAN

**U.S.:** The U.S. Census Bureau's Internet site E Stats is devoted exclusively to measuring the electronic economy. The site features recent and upcoming statistical releases, information on methodology, and background papers: <http://www.census.gov/econ/estats/>.

**EU:** Eurostat<sup>123</sup> is the statistical office of the European Union, and provides e-commerce related information:

- \* Information society statistics: [http://epp.eurostat.ec.europa.eu/portal/page/portal/information\\_society/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/introduction)
- \* E-commerce sales and purchases: [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/e-commerce\\_sales\\_and\\_purchases](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/e-commerce_sales_and_purchases)

**ASEAN:** The E-Commerce Database Project of the Association of Southeast Asian Nations (ASEAN)<sup>124</sup> is linked below:

<http://www.aseansec.org/documents/ASEAN%20eCommerce%20Database%20Project.pdf>

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<sup>123</sup> Eurostat: <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/>

<sup>124</sup> Association of Southeast Asian Nations (ASEAN): [www.aseansec.org/](http://www.aseansec.org/)

## APPENDIX 2

### Types of e-commerce business models

**Shopping search engines or price comparison services:**<sup>125</sup> On the Internet, a price comparison service or a shopping search engine allows individuals to see different lists of prices for specific products. Most price comparison services do not sell products themselves, but source prices from online retailers from whom users can buy. They are monetized through payments from retailers who are listed on the site.

**Discovery shopping:**<sup>126</sup> Discovery shopping emphasizes the browsing aspects of the shopping experience and offers shoppers guided queries for more personalized results. They offer features such as specifying styles, colors and brands, showing similar items, and displaying results in a visually engaging format.

**Social shopping:**<sup>127</sup> Social shopping is a method of e-commerce where shoppers' friends become involved in the shopping experience. Social shopping attempts to use technology to mimic the social interactions found in physical malls and stores. Shopping communities bring like-minded people together to discuss, share, and shop. Using the wisdom of crowds, users communicate and aggregate information about products, prices, and deals. Many sites allow users to create custom shopping lists and share them with friends.

**Social Shopping Marketplaces:** They bring sellers and buyers together to connect and transact. The offline analogy for this category is a farmers market or bazaar. The marketplace brings together independent sellers and creates a forum for them to display and sell their wares to buyers. The marketplace affords buyers and sellers methods to connect and communicate whilst also performing the role of ecommerce facilitator for sellers and discovery engine for buyers.

**Group buying:**<sup>128</sup> Group buying, also known as collective buying, offers products and services at significantly reduced prices on the condition that a minimum number of buyers would make the purchase. Typically, these websites feature a "deal of the day", with the deal kicking in once a set number of people agree to buy the product or service. Buyers then print off a voucher to claim their discount at the retailer. Many of the group-buying sites work by negotiating deals with local merchants and promising to deliver crowds in exchange for discounts (e.g. Groupon).

**Online marketplace:**<sup>129</sup> Online marketplace refers to a type of e-commerce site where product and inventory information is provided by multiple third parties, whereas transactions are processed by the marketplace operator. Online marketplaces are the primary type of multichannel e-commerce. Channels include retail stores, online stores, mobile stores, mobile app stores, telephone sales and any other method of transacting with a customer. In an online marketplace, consumer transactions are processed by the marketplace operator and then delivered and fulfilled by the participating retailers or wholesalers (often called drop shipping; e.g. eBay and Amazon).

**Deal of the day:**<sup>130</sup> Deal of the day (also called flash sales, one deal a day) is a type of e-commerce in which a website offers a single product for sale for a period of 24 to 36 hours. Members of deal of the day websites receive online offers and invitations in postal mail, email and

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<sup>125</sup> Price comparison services: [http://en.wikipedia.org/wiki/Price\\_comparison\\_service](http://en.wikipedia.org/wiki/Price_comparison_service)

<sup>126</sup> Discovery shopping: [http://en.wikipedia.org/wiki/Discovery\\_shopping](http://en.wikipedia.org/wiki/Discovery_shopping)

<sup>127</sup> Social Shopping: [http://en.wikipedia.org/wiki/Social\\_shopping](http://en.wikipedia.org/wiki/Social_shopping)

<sup>128</sup> Group buying: [http://en.wikipedia.org/wiki/Group\\_buying](http://en.wikipedia.org/wiki/Group_buying)

<sup>129</sup> Online marketplace: [http://en.wikipedia.org/wiki/Online\\_marketplace](http://en.wikipedia.org/wiki/Online_marketplace)

<sup>130</sup> Deal of the day: [http://en.wikipedia.org/wiki/Deal\\_of\\_the\\_day](http://en.wikipedia.org/wiki/Deal_of_the_day)

social networks. The deal of the day business model works by offering retailers the opportunity to market discounted services or products directly to the customers of the deal company. The deal company takes a profit from the deals sold through direct marketing efforts such as email.

**Digital ticket:**<sup>131</sup> A digital ticket is a virtual instance of a ticket which represents the digitization of rights to claim goods or services. A digital ticket must fulfill the following criteria: Secure (unable to alter or counterfeit); portable (physical independence); off-line capable; wide acceptability (in order to have the ticket generally accepted, some level of trust is needed.); user-friendly.

**Electronic ticket:**<sup>132</sup> An electronic ticket (e-ticket) is a digital ticket. It may be issued by an airline, in road, urban or rail public transport, and in entertainment. In the case of an airline ticket, the e-ticket rapidly replaced the older multi-layered paper tickets (from close to zero to 100% in about 10 years) and became mandatory for IATA members as from June 2008.

**Travel technology:**<sup>133</sup> Travel technology (also called tourism technology and hospitality automation) is the application of Information Technology (IT) in the travel, tourism and hospitality industry. Travel technology includes virtual tourism in the form of virtual tour technologies. Travel technology may also be referred to as e-travel or e-tourism, in reference to "electronic travel" or "electronic tourism."

**Online hotel reservations:**<sup>134</sup> Online hotel reservations are a popular method for booking hotel rooms. Travelers can book rooms on a computer by using online security to protect their privacy and financial information and by using several online travel agents to compare prices and facilities at different hotels.

**Paid Content:**<sup>135</sup> Paid content is a sale of digital content and information goods in digital media. Paid content differ from paid services in the way that digital content can be passed on and be used by different individuals. Digital services can be characterized as a right which can be exercised, but not passed on without it being lost. The difference can be made clear by considering the differences between an MP3 music file and online games. The MP3 file can often be duplicated, passed on and exchanged – without capacity boundaries or losses suffered by an individual. Online games, however, as an example of digital services, is only a right to participate when the purchased input is offered and traded.

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<sup>131</sup> Digital Ticket: [http://en.wikipedia.org/wiki/Digital\\_ticket](http://en.wikipedia.org/wiki/Digital_ticket)

<sup>132</sup> Electronic Ticket: [http://en.wikipedia.org/wiki/Electronic\\_ticket](http://en.wikipedia.org/wiki/Electronic_ticket)

<sup>133</sup> Travel Technology: [http://en.wikipedia.org/wiki/Travel\\_technology](http://en.wikipedia.org/wiki/Travel_technology)

<sup>134</sup> Hotel Reservation: [http://en.wikipedia.org/wiki/Online\\_hotel\\_reservations](http://en.wikipedia.org/wiki/Online_hotel_reservations)

<sup>135</sup> Paid Content: [http://en.wikipedia.org/wiki/Paid\\_content](http://en.wikipedia.org/wiki/Paid_content)

## APPENDIX 3

### IDI breakdown by indices

The ICT Development process, and a country's transformation to becoming an information society, can be depicted using the following three stage model:

Stage 1: ICT Readiness (Reflecting the level of networked infrastructure and access to ICTs)

Stage 2: ICT Intensity (Reflecting the level of use of ICTs in the society)

Stage 3: ICT Impact (reflecting the result/outcome of efficient and effective ICT use)

Based on the conceptual framework the IDI is divided into the following three sub-indices:

- **Access sub-index (readiness - level of infrastructure and access):** This sub index captures ICT readiness, and includes five infrastructure and access indicators: Fixed Telephony, Mobile Telephony, International Internet Bandwidth, Households with computers and Households with internet. Armenia was in 77<sup>th</sup> place (2010) among 165 countries (in 2008 it was in 84<sup>th</sup>) in the ranking list of IDI access sub-index. The change is again significant. In Armenia, the proportion of households with internet access has increased substantially over the last few years, mainly due to increased mobile-broadband access, and by the end of 2010, over one-third of homes were connecting to internet. At the same time, Armenia showed strong growth in terms of international internet bandwidth.
- **Use sub-index (intensity and usage):** This sub index captures ICT intensity, and includes three ICT intensity and usage indicators: Internet users, Fixed (wired)-broadband and Mobile broadband. With regard IDI use-subindex, Armenia was in 78<sup>th</sup> place in 2010 (in 2008 it was in 122<sup>nd</sup>). With its 44 points rank change, Armenia was the first country in the world. 3G mobile-broadband networks and services have made an important impact on mobile-broadband penetration rates in Armenia. Fixed broadband penetration rates also made good progress in Armenia rising from 0.2% to 5% between 2008 and 2010.
- **Skills sub-index (education enrollment and literacy):** This sub index captures ICT capability or skills as indispensable input indicators. It includes three proxy indicators (adult literacy, gross secondary enrollment and gross tertiary enrolment). Separate consideration should be given to IDI skills sub-index. In this ranking Armenia was 47<sup>th</sup> (!!!) in 2010 (52<sup>nd</sup> in 2008). Though these indicators are proxy indicators used to measure country's level of human capacity and its ability to absorb and take advantage of ICTs. More targeted indicators would be ones that measured countries' ICT literacy. Reaching the final stage, and maximizing the Impact of ICTs, crucially depends on ICT skills. Economic growth and development will remain below potential if economies are not capable of exploiting new technologies and reaping their benefits.

## APPENDIX 4

### Trends in CEP Market

It is important to consider trends in the shipping business related to e-commerce so as to identify models and actions to be implemented in Armenia and as a result can enhance e-commerce sales in country.

#### Drop Shipping<sup>136</sup>

Drop shipping allows online retailers and auction sellers to send orders placed through their online stores to manufacturers, distributors or major warehouses, who in turn "drop ship" the items directly to the retailer's customers, essentially handling the order fulfillment for the retailer. Instead of worrying about inventory and delivery, drop shipping frees the retailer to focus on listening to the market, discovering the products its customers want and then rapidly add them to its online offering. As in retail businesses, the majority of retailers make their profit on the difference between the wholesale and retail price, although some retailers earn an agreed percentage of the sales in commission, paid by the wholesaler to the retailer.

#### Warehouse management system pre-integrated into e-commerce software

Such an integrated technology framework can ensure that consumer orders received on the e-commerce platform (shopping cart, analytics, marketing capabilities) flow smoothly to the logistic company's warehouse management system. For example, UPS and Bridgeline announced integrated software at the Internet Retailer Conference & Exhibition 2012.<sup>137</sup> The deal supports a growing trend to identify-commerce solutions that include warehouse management and physical fulfillment capabilities. The integration with Bridgeline offers UPS both a way to attract more retailers and to better compete against eBay Inc. which offers integrated e-commerce and fulfillment services through its GSI Commerce unit. Through its X.Commerce initiative, eBay is also working to bring more integrated e-commerce and fulfillment technology and services that include its Magneto e-commerce software.

Such an effort has been also initiated between Japan Post, Rakuten and eBay to offer international fulfillment.<sup>138</sup> The partnership aims to expand Rakuten's international business with a fulfillment system that will enable Rakuten shops to deliver goods to their international customers at an affordable cost. Rakuten's website will be developed to automatically create the shipping forms and other necessary documents to clear customs for goods ordered from overseas, providing a hassle-free way for operators of Rakuten online stores to start selling internationally. The new systems will be based around the registered airmail packet, which offers 20 to 30 percent cheaper shipping than regular items.

#### Integrator software

All world major carriers now offer software and application programming interfaces (APIs), a specification intended to be used as an interface by software components to communicate with each other, for order processing and integrating, respectively. For example, DHL offers a "Trade Automation Service" that helps estimate the total landed cost that international customer will have

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<sup>136</sup>Drop shipping: [http://en.wikipedia.org/wiki/Drop\\_shipping](http://en.wikipedia.org/wiki/Drop_shipping)

<sup>137</sup> UPS ties technology to Bridgeline Digital's e-commerce software:

<http://www.internetretailer.com/2012/06/12/ups-ties-technology-bridgeline-digital-e-commerce-software>

<sup>138</sup> Japan Post teams up with Rakuten and eBay to offer international fulfillment (16 April 2012)

<http://www.e-commercefacts.com/news/2012/04/rakuten-collaborates-with/index.xml>

to pay. It is a free service that can be accessed from a browser, or integrated into the checkout process using XML. Most small retailers that have a low volume of international shipments can use the browser-based version to determine the total landed cost and then notify the end customer of the total order value, which includes the shipping cost for payment.

### Manifesting System<sup>139</sup>

Retailers currently need software that will help them to make comparisons between the prices of carriers as at present they do not have similar services with similar conditions. Such software is a manifesting system with a multi-carrier platform. It allows retailers to input the shipping characteristics. What is the origin zip code? What is the destination zip code? What is the weight? What service does the retailer need? And then once the retailer manifests that package, it will reply indicating the charges made by a number of different providers so that the retailer can make a decision based on the information that was returned by the manifesting system. The manifesting system in turn will create a shipping label for the carrier that the retailer selected. In sum, retailers can automate the process.

### Supporting to get into foreign markets smoothly

According to FiftyOne, a logistics company specializing in international shipping, difficulties involved in international e-commerce largely have to do with the extreme complexity of navigating different languages, currencies, customs regimes and other import tariffs and regulations.<sup>140</sup> Some of the challenges that retailers face in foreign markets are:

- USA: To protect wildlife, an order for a pillow with feathers from migratory birds requires a permit.
- Ireland: Children's clothing is not taxed when imported.
- Japan: A special license is needed to import eyeglasses and contact lenses.
- Spain: Playing cards are among import restricted items.

Companies like FiftyOne help U.S. retailers ship their products to customers worldwide by using their experience and expertise to break problems down into manageable pieces. FiftyOne currently ships to over 100 countries and territories worldwide and accepts over 40 major currencies.<sup>141</sup> Each retailer selling internationally through FiftyOne is able to select exactly which countries it will sell to. However, at the moment Armenia is not on the list, and this harms competition as the virtual presence of international brands in the Armenian market could only increase the efficiency of the services provided by local brands either online or offline.

### Ship Internationally Using a Third-Party Service

There are several options available to ship internationally if the retailer can afford to spend a few dollars a month to work with a third-party. In the United States, retailers can do the following:

- Use a service such as BongoInternational, MyAmericanShipper or GetMyUSMail, which enables them to ship all international shipments to a single U.S. address. The service

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<sup>139</sup> <http://www.practicalecommerce.com/articles/3421-How-to-Reduce-Ecommerce-Shipping-Costs>

<sup>140</sup> Infographic: The challenges of cross-border trade (15 February 2012)

<http://www.e-commercefacts.com/background/2012/02/infographic-global-expansis/index.xml>

<sup>141</sup> Countries served by FiftyOne: <http://www.fiftyone.com/resources/countries-served-by-fiftyone>

provider then forwards the order to the international destination, handling all the complexities of customs, duties and regulations.

- Use shipping consolidation (international mail consolidators) services like UPS Mail Innovations and BorderJump to ship international orders to a U.S. hub. The service provider will consolidate the orders by country and ship them together to the end customers, reducing shipping costs.
- Sign up with a site that shops on behalf of the international customer and then consolidates and ships the order internationally. Companies that offer this service are MyAmericanShopper and American-Checkout.
- Sell using services like iGlobalExports, where the service provider buys products at a discount from retailer and then fulfills the order for the international customer. The retailer's site just needs to integrate with the service provider.

### **E-Marketplace by National Post Operator**

The creation of an e-marketplace would be useful for SMEs as the operators could consolidate their orders with those of larger companies, and thus provide affordable prices for delivery. An important characteristic of Amazon's logistic network is that it can benefit small and medium e-commerce enterprises that use Amazon as a platform to sell their products. These businesses are able to use the Fulfilled by Amazon service, which allows them to offer their customers the same treatment otherwise reserved to Amazon's own products (for example, free cross-border shipments for eligible items). The prices that SMEs pay for the Fulfilled by Amazon service are lower than those available with other delivery options.

### **Online parcel brokers**

In the larger EU countries there are web brokerage services available to individual shippers that offer discounted rates to deliver parcels cross-border. These companies operate in the CEP (courier, express and parcel) market. Brokers do not engage in any logistics or delivery themselves. They simply buy capacity in bulk, generally from integrators, CEP companies, national operators and/or their subsidiaries. Buying in bulk affords brokers discounts; Brokers may also receive affiliate fees from providers for the deliveries they procure. For customers that ship low cross-border volumes infrequently, such as individual consumers, microenterprises and many small distance sales enterprises, online brokers provide heavily discounted CEP products from integrators and other parcel operators. Services such as Parcel2go.com, Interparcel.com, parcelbroker.co.uk, Parcelsplease.co.uk in the U.K., myShip.it in Italy, versandbroker.de in Germany, or envoimonscher.com in France all allow infrequent senders to obtain large savings on CEP products. The advantage of this business model is that it allows parcel operators and integrators to sell their spare capacity, thereby increasing profitability, while at the same time allowing small distance sellers (with low volumes and infrequent traffic), microenterprises and individual consumers to achieve substantial price savings.

### **Automated Parcel Terminals**

In many countries, logistics companies are building and starting to implement Automated Parcel Terminal (APTs) networks. The process is the following: A customer makes the order online; the product is shipped to APT; the customer receives a text message notification; he goes to the APT's location, inserts the PIN, makes payment and collects the parcel. The pick-up from APT takes only 15 seconds. APTs are located in supermarkets and other convenient locations, very close to the everyday routes of consumers. The delivery point can be chosen from many possible locations,



not only from the home or work address. The PIN-code can be forwarded and somebody else can pick up the parcel. Implementation examples include:

- Amazon started to test its own network of APT-s called “**Amazon Locker**”.
- DHL’s APTs are called **DHL Parkstation**.<sup>142</sup> One-fourth of the online shoppers surveyed for the Deutsche Post DHL (DPDHL) study "Shopping 4.0"<sup>143</sup> are already registered DHL Packstation customers. More than 2,500 Packstations are available throughout Germany and serve approximately 2.5 million DHL customers. Customers can use the Packstations to pick up or send packages any time of day or night. For 57% of those surveyed, this flexibility was the deciding factor in choosing DPDHL. Increased flexibility also represents a significant boost for the e-commerce sector. One-third of respondents reported an increase in their online shopping activities and almost all registered users would recommend the service.
- **Estonia:**<sup>144</sup> Back in 2008, Estonia had a low level of e-commerce due to a weak supply side (small market) and low quality level of e-commerce logistics, as the state-owned post company (Estonian Post) dominated in the market (95%). Estonian Post had the only network, and the results of that monopoly were lost time for customers, unpleasant customer service by post employees and problems with returns. There were problems for e-retailers as well: High prices, low quality of delivery service, and many delayed and damaged parcels. In the last 2-3 years, the growth of e-commerce in Estonia has been rapid: 25-35% annual turnover growth and 20% annual growth of the number of e-commerce companies. The main reason is the massive improvement in the quality, and rapid decrease of the price, of e-commerce delivery services. This, in turn, is the result of utilizing Automated Parcel Terminals (APT-s), an initiative of a competitor company to Estonian Post. Now, 40-50% of e-commerce deliveries are made by using APTs. Traditional e-commerce delivery services now have to compete with APTs, and in consequence the prices have been reduced remarkably, and the quality of service has risen. A competing network of APTs has recently been implemented by Estonian Post in 2011 in order to try to stop losing their market.

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<sup>142</sup>DHL Parkstation: <http://www.dhl.de/en/paket/privatkunden/packstation.html>

<sup>143</sup>Deutsche Post DHL study "Shopping 4.0" (2012)  
[http://www.dp-dhl.com/en/media\\_relations/press\\_releases/2012/quality\\_of\\_life\\_with\\_e-commerce.html](http://www.dp-dhl.com/en/media_relations/press_releases/2012/quality_of_life_with_e-commerce.html)

<sup>144</sup>Revolution of E-commerce Logistics Services: Case Study of Estonia (Peep Kuld, 2012)  
<http://www.e-commercesummit.com/images/stories/presentations/2012/Revolution%20of%20e-commerce%20delivery%20services.pdf>



## APPENDIX 5

### E-Commerce Associations

There are several e-commerce related associations worldwide. They participate in public relations activities such as advertising, education, lobbying, but its main focus is collaboration between companies, or standardization. Some examples are:

- **Electronic Retailing Association (ERA)** is the only trade association that represents the global leaders of the direct-to-consumer marketplace—companies which use the power of direct response to sell goods and services on television, online and on radio. <http://retailing.org/>
- **NetChoice** is a coalition of trade associations, e-commerce businesses, and online consumers, all of whom share the goal of promoting convenience, choice and commerce on the Net.  
<http://www.netchoice.org>
- **The Internet Association** is the unified voice of the Internet economy, representing the interests of America's leading Internet companies and their global community of users. The Internet Association is dedicated to advancing public policy solutions to strengthen and protect an open, innovative and free Internet. <http://internetassociation.org/>
- **Shop.org**, a division of the National Retail Federation, is a member-driven trade association whose exclusive focus is to provide a forum for retail executives to share information, lessons-learned, new perspectives, insights and intelligence about online and multichannel retailing.  
<http://www.shop.org/home>
- **Ecommerce Europe** is the association representing companies selling products and/or services online to consumers in Europe. Founded by leading national e-commerce associations, its mission is to advance the interests and influence of e-commerce in Europe through advocacy, communication and networking. <http://www.ecommerce-europe.eu/home>
- **The National Association of Mail Order and Distance Selling Trade (NAMO)** is a non-profit professional organization aimed at development of Russian distance selling industry. The Association was established by the representatives of leading mail order and direct marketing companies in 2004. At the moment NAMO unites 24 top distance selling companies. - <http://www.namo.ru>
- **European Ecommerce and Mail Order Trade Association (EMOTA)** is the trade organization that represents at European and international level, the interests of e-commerce companies and retailers interacting with customers through various distance sales channels. <http://www.emota.eu/>

## APPENDIX 6

### Models for mobile payments

- **Premium SMS/USSD based transactional payments:** The consumer sends a payment request via an SMS text message and a premium charge is applied to his/her phone bill or online wallet. The merchant involved is informed of the payment success and can then release the paid for goods.
- **Direct Mobile Billing:** The consumer uses the mobile billing option during checkout at an e-commerce site (e.g. online gaming site) to make a payment. This payment method that does not require the use of credit/debit cards or pre-registration at an online payment solution, thus bypassing banks and credit card companies altogether.
- **Mobile web payments (WAP):** The consumer uses web pages displayed or additional applications downloaded and installed on the mobile phone to make a payment. WAP (Wireless Application Protocol) is the underlying technology. However, unless the mobile account is directly charged through a mobile network operator, the use of a credit/debit card or pre-registration at online payment solution such as PayPal is still required just as in a desktop environment.
- **Contactless Near Field Communication (NFC):** NFC is used for purchases made in physical stores or transportation services. A consumer using a special mobile phone equipped with a smartcard waves his/her phone near a reader module. Some transactions require authentication using a PIN, before transaction is completed. The payment could be deducted from a pre-paid account or charged to a mobile or bank account directly.

### Mobile payment service provider models

- **Operator-Centric Model:** The mobile operator acts independently to deploy a mobile payment service. A large deployment of the Operator-Centric Model is severely challenged by the lack of connection to existing payment networks. The mobile network operator should handle the interfacing with the banking network to provide the advanced mobile payment service in banked and under banked environment.
- **Bank-Centric Model:** A bank deploys a mobile payment applications or devices to customers and ensures merchants have the required point-of-sale (POS) acceptance capability. Mobile network operators are used as a simple carrier; they bring their experience to provide quality of service (QOS) assurance.
- **Collaboration Model:** This model involves collaboration among banks, mobile operators and a trusted third party.

**Peer-to-Peer Model:** The mobile payment service provider acts independently from financial institutions and mobile network operators to provide mobile payment.

## APPENDIX 7

### Mobile banking business models

- **Bank-focused model:** The bank-focused model is one where a traditional bank uses non-traditional low-cost delivery channels to provide banking services to its existing customers. Examples range from use of automatic teller machines (ATMs), to internet banking or mobile phone banking, to provide certain limited banking services to banks' customers. This model is supplementary in nature and may be seen as a modest extension of conventional branch-based banking.
- **Bank-led model:** In the bank-led model, the customer conducts financial transactions at a whole range of retail agents (or through mobile phone) instead of at bank branches or through bank employees. In this model, financial services outreach is high by using a different delivery channel (retailers/ mobile phones), a different trade partner (telco / chain store) having experience.

**on-bank-led model:** In this case, a bank has a limited role in the day-to-day account management. Typically its role in this model is limited to safekeeping of funds. Account management functions are conducted by a non-bank financial institution (e.g. telco) that has direct contact with individual customers.

## APPENDIX 8

### Protection of Consumers

This field is mostly considered from side of strong and detailed legislation enforcement. International organizations and governments are setting forth separate legislative acts for protection of consumers' rights before, during and after online purchases.

#### 1. EU Legislative initiatives in the field of E-Consumer rights protection

##### Consumer Rights Protection

- EU Directive on Consumer Rights

[http://ec.europa.eu/justice/consumer-marketing/rights-contracts/directive/index\\_en.htm](http://ec.europa.eu/justice/consumer-marketing/rights-contracts/directive/index_en.htm)

- EU Electronic Commerce Directive aims to promote a single market approach to e-commerce consumer protection

[http://ec.europa.eu/internal\\_market/e-commerce/directive\\_en.htm](http://ec.europa.eu/internal_market/e-commerce/directive_en.htm)

##### Privacy and Data Protection

- EU ePrivacy Directive

[http://ec.europa.eu/information\\_society/policy/ecommerce/doc/library/public\\_consult/data\\_breach/ePrivacy\\_databreach\\_consultation.pdf](http://ec.europa.eu/information_society/policy/ecommerce/doc/library/public_consult/data_breach/ePrivacy_databreach_consultation.pdf)

- EC Data Protection Directive

[http://ec.europa.eu/justice/data-protection/index\\_en.htm](http://ec.europa.eu/justice/data-protection/index_en.htm)

[http://ec.europa.eu/justice/newsroom/data-protection/news/120125\\_en.htm](http://ec.europa.eu/justice/newsroom/data-protection/news/120125_en.htm)

##### Consumers and Data Protection in Delivery Field

- EU Postal Directive Ensures that transparent, simple and inexpensive procedures are drawn up by member states for dealing with user complaints, particularly in cases involving loss, theft, damage or non-compliance with service quality standards (Article 19).

[http://ec.europa.eu/internal\\_market/post/legislation\\_en.htm](http://ec.europa.eu/internal_market/post/legislation_en.htm)

#### 2. EU Non legislative initiative for E-Consumer rights protection

##### EU Experience - eYouGuide<sup>145</sup>

From the digital consumer rights perspective, one of the most interesting programs included in i2010 is the e YouGuide to your rights online,," launched in May 2009. The program's approach is a very

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<sup>145</sup>eYouGuide: [http://ec.europa.eu/information\\_society/eyouguide/navigation/index\\_en.htm](http://ec.europa.eu/information_society/eyouguide/navigation/index_en.htm)

practical one, offering a simple online assistance tool (Frequently Asked Questions) referring to the rights of consumers in the digital space, described below.

1. Protecting privacy: Tips and precautions citizens should take in order to prevent misuse of personal information online. This includes Internet services and email, advice related to uploading personal information online, confidentiality of email and Internet phone calls, shopping online, and online payment safety.
2. Being informed: What citizens should know when dealing with online sellers and service providers, obligations of the Internet services providers, and information that should be expected when shopping online.
3. Terms & conditions: What citizens should know about the consumer contracts, unfair terms and delivery of goods bought online, importance of the terms and conditions specified on the online shopping sites, and rights and obligations in respect with delivering goods purchased online.
4. Advertising and offers: Illegal offers, advertisements and other unfair commercial practices online consumers should be aware of (spam, illegal fees and taxes, promotions addressed to children).
5. Safety and Security: Concerns about the security of consumer's computer, Internet connection or safety of online payments. Risks of using social networks and uploading personal data on various web sites.
6. Copyright and Intellectual Property Rights: What consumers should know about their rights and obligations related to music files, movies, CDs and DVDs and books online. Legal information related to downloading and using films, music, recording video and audio streams, uploading music on file sharing networks.
7. Protecting minors: How to protect children from harmful online content, controlling children access to video games, specific sites.
8. Disabled, older people: Access to and use of online services for older people and people with disabilities.
9. Who is liable: How to find who is responsible for illegal online content and for faulty goods sold or advertised on the internet; and
10. Taking action, redress: Enforcing consumer rights – how and where consumers can report abuses, illegal taxes, make claims related to the overall Internet services quality.

### European Consumer Centers (ECC) Network<sup>146</sup>

To address the practical obstacles consumers face and in order for them to know and exercise their rights when shopping across borders, as well as in seeking redress, the European Commission, together with the Member States, has created a network of information and advice centers, the European Consumer Centers Network (ECC-Net). The Network provides consumers with a full, one-stop shop information and advice service, including assistance in resolving complaints and disputes with traders and accessing an appropriate Alternative Dispute Resolution scheme or court procedure.

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<sup>146</sup> European Consumer Centers (ECC) Network: [http://ec.europa.eu/consumers/ecc/index\\_en.htm](http://ec.europa.eu/consumers/ecc/index_en.htm)

### 3. International Efforts for Consumer Protection

#### OECD

- OECD Committee on Consumer Policy provides recommendations and guidelines on Electronic commerce, Mobile Commerce, Internet Fraud, Copy control and Digital Rights Management, Cardholder Protection

<http://www.oecd.org/sti/consumerpolicy/consumersinthedigitaleconomy.htm>

- The OECD Working Party on Information Security and Privacy (WPISP) develops policy options to sustain trust in the Internet Economy

<http://www.oecd.org/sti/interneteconomy/informationsecurityandprivacy.htm>

#### International Consumer Protection and Enforcement Network (ICPEN): [www.icpen.org](http://www.icpen.org)

The International Consumer Protection and Enforcement Network (ICPEN) is trying to find cooperative ways of tackling consumer problems connected with cross-border transactions in both goods and services, and to help ensure exchanges of information among the participants for mutual benefit and understanding. From this came e-consumer, as an initiative of ICPEN since April 2001. [www.econsumer.gov](http://www.econsumer.gov) is a portal of ICPEN to report complaints about online and related transactions with foreign companies. In April of 2001, responding to the challenges of multinational Internet fraud, and working to enhance consumer protection and consumer confidence in e-commerce, 13 countries unveiled [econsumer.gov](http://www.econsumer.gov), a joint effort to gather and share cross-border e-commerce complaints. Today, consumer protection agencies in 28 countries participate in this initiative. The project has two components: a multilingual public website, and a government, password-protected website. The public site allows consumers to lodge cross-border complaints, and to try to resolve their complaints through means other than formal legal action.

#### International Consumers Organizations: <http://www.consumersinternational.org/>

Consumers International (CI) is the world federation of consumer groups that, working together with its members, serves as one of the few independent and authoritative global voices for consumers.

Consumers International's (CI) work on broadband service provision and access to knowledge (A2K) are designed to further these goals, through global campaigning for fairer laws and practices and holding industry players to account.

#### North American Consumer Project on Electronic Commerce: <http://www.nacpec.org/en/>

NACPEC's mission is twofold: First, it is concerned with the present and future needs of consumer groups, practitioners in law related to all aspects of electronic commerce affected by government regulatory affairs and consumer legislation across North America and Europe. Second, NACPEC exists to enhance consumer awareness through its website as the pre-eminent educational and informational tool serving as a useful source of reference and consultation widely broadcast, and readily accessible to all.