# *People’s Republic of Bangladesh*

**Department of Information & Communication Technology (DOICT)**

Agargaon, Dhaka

# Project : Development of “E-commerce Verification & Certification (ECVC) Framework”

**Terms of Reference (ToR)**

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| **Assignment :** Hiring a Firm/Organization for the Development of E-Commerce Verification & Certification (ECVC) Framework.  **Contract Type:** Development Agreement  **Location:** Dhaka, Bangladesh  **Duration of the assignment:** 2 Month tentatively from May 1, 2018 to July 30, 2018. |

## 1. Background

Electronic commerce, commonly known as e-Commerce, consists of the processes of buying and selling products or services over electronic systems such as the internet and other computer networks. There are many types of e-Commerce businesses like Business to Business (B2B), Business to consumer (B2C), Business to Government (B2G), Consumer to Consumer (C2C), and Business to employee (B2E) etc.

According to the e-Commerce Association of Bangladesh (e-CAB), there are 1,000 e-commerce entrepreneurs in the country, who are running their businesses through websites and 8,000 entrepreneurs of f-commerce (Facebook Commerce) who run their business through Facebook pages. However, the number of registered e-CAB companies is almost 500.

The current growth rates, quarter-on-quarter, are very high as of 2014. Growth rates of over 30% quarter-on-quarter are not commonplace for most sectors in Bangladesh. The predicted growth rates for 2015 and 2016 were even higher and simply a persuasive case for more market-entry and business expansion in this sector. The Internet penetration is 5%, mobile penetration is 23%, e-commerce sales: $38.1 million-commerce annual growth rate: 200%+ (2013-2016)[6] e-Commerce Delivery Ratio in Bangladesh: More than 50 thousand people are engaged in an e-commerce business. At present parcels of approximately 20 thousand per day and 5-6 lakh per month are delivered all over the country.

Some reports claim that the sector worth more than BDT 400 Crores a year and growing. However, the sector has its own roadblocks to deal with. Much of the problem causes because of the lack of proper eCommerce orientation among customers whereas small eCommerce owners also don’t spend much time in educating their buyers. Consequently, the entire industry suffers quite a predictable inefficiency.

One of the major problems, as reported by many eCommerce merchants, is fraud. There are instances of getting robbed off of, non-payment after delivery, and more. This is a growing concern for many small eCommerce merchants. Moreover there are lot of eCommerce merchants that are also involved in fraud. Taking the order and payment without the delivery, delivering wrong products, delivering low quality products, not resolving valid claims and many more types of fraudulent work is being reported recently.

## 2. Objectives

As eCommerce business are booming, the amount of fraudulent activities are also increasing. So this is the high time to bring it inside the security hood. DOICT always try to deliver innovative, secure and easy services to the community. This project is aimed to bring all the eCommerce Merchant under one hood through verification through the Assistant Programmers that are appointed in district level and giving certification tags to add their website or other digital media so that people can trust. Several significant objective of the project are given below

1. To Improve Quality of the e-commerce business systems in Bangladesh.
2. To Reduce of confirmed fraudulent attempts.
3. To Improve and established confidence between buyer and seller relationship.
4. To Improve Minimize manual reviews and outbound verifications to reduce operational costs.
5. To Reduce customer friction of selective products purchase.
6. To Control Combat digital fraud and card fraud through authentication.
7. To Protect e-commerce businesses’ reputation and revenue by catching fraud attacks fast.
8. To take all steps to support, protest and prevent constitutionally all governmental law or proceedings imposed against any e-commerce business company.
9. To help all the buyer of the e-commerce, who are belongs to Legal rights of E-Commerce Business of the country.
10. To take all steps and efforts to remove any obstacle faced by any e-commerce business seller.
11. To ensure of the aims and objectives of the e-commerce company form up time to time and in proper places according to their needs.

## 3. Scope of Work

The design & development scope will be limited to the scope of work as identified in the TOR. The scope of work can be categorized with the following tasks:

1. Conduct a needs assessment to prepare the precise System Requirement Specification (SRS) for designing and developing eCommerce Certification and Verification (ECVC) Framework and Provide concrete development plan in the SRS, which should include context diagram of the proposed system, Sequence Diagram, Use case Diagram, and Process Flow Diagram.
2. Design the solution architecture of the eCommerce Certification and Verification (ECVC) Framework in a manner for better performance, flexibility, scalability, extensibility and multi tenancy of the system for future expansion.
3. Compatible for exchanging data with other eCommerce platforms.
4. Ensure access control, application level security.
5. Design and develop Role-wise credential system incorporation for better user role management.
6. System shall provide the ability to encrypt user IDs and passwords and impose minimum password lengths along with ability to reset passwords following a standard password strategy.
7. The system will have an e-communication module, which will be used for sending email and sms the categorized users and relevant reports of e-communication should be produced.
8. There will be a Dashboard presenting dynamic data in reports in tabular and graphic presentations.
9. The proposed eCommerce Certification and Verification (ECVC) Framework will have a registration form for the eCommerce Merchants from different district. District Administrator for the framework will register the Marchants after physical verification.
10. After Registration the system will provide a badge for the merchant for presenting in their website, facebook page or any digital media.
11. The system should have provision for periodical & instant Data Backup & Auto Archiving System.
12. eCommerce Certification and Verification (ECVC) Framework should be cross browser compatible, responsive and graphically attractive.
13. The system must have a Certificate Verification mechanism with Blockchain Technology.
14. The developed system must support Bengali UNICODE enable font so that Bengali content can be viewed properly from any machine, which support Unicode. The proposed system must facilitate for showing the content both in English and Bengali Language.
15. Vendor Company will ensure system to be tested at module integration and load level. All necessary security test at application level architecture needs to be followed and conducted by the vendor.

## 4. Expected Outputs/Deliverables

1. Inception Report
2. Software Requirement Specification SRS.
3. Development of eCommerce Certification and Verification (ECVC) Framework
4. Software Deployment on Live Server.
5. User Manual
6. Knowledge transfer through workshop/Training.
7. Source code & database
8. Project Completion report including upcoming challenges if any.

## 5. Technological Specification

1. Need to use Open Source Development Platform.
2. PHP based platform with tool architecture like Bootstrap, framework like Drupal/CakePhp/Laravel/codeigniter can be used.
3. Future technology Change, iterative prototyping and agility in product design are the generic expectation.
4. Technology and all related design/data will be open to Client.
5. The vendor should follow any of the industry standard secure development methodology such as (but not limited to) Comprehensive Lightweight Application Security Process (CLASP) by OWASP etc. The vendor should consider (but not limited to) common vulnerabilities such as SQL Injection, Cross Site Scripting (XSS) etc. Vendor will undertake responsibility for Input Validation Controls, Authorization/Authentication Control and other security controls in place in both test and production environment of application.

## 6. Project Timeline

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| **SN** | **Activity** | **Time** |
|  | **Development** |  |
| 1 | Conduct background scoping and research work and finalizing the system requirements | 5 Days |
| 2 | Development of eCommerce Verification & Certification (ECVC) Framework to incorporate client requirement as per approved SRS | 1 Month |
| 3 | 1st level feedback collection and incorporation | 5 Days |
| 4 | Testing, debugging, update | 5 Days |
| 5 | Delivery of UAT and 2nd level feedback collection | 5 Days |
| 6 | Knowledge transfer through workshop/training | 5 Days |
| 7 | Delivery of the final version of the system along with all required documentation including source code, user manual and technical documentation (SRS Final Version) | 5 Days |
|  | **Sub-Total** | **2 Months** |

## 7. Supervision and Performance Evaluation.

Awarded vendor will be working with DOICT

## 8. Project Management

The bidders are expected to provide a detailed project plan and an implementation strategy

of the project. This plan is expected to include:

1. Information regarding the development process
2. Application development tools, language, and database requirements
3. Maximum lead time for delivery of services.
4. A development method and schedule with indicative timeline (Gantt chart).
5. Risk management strategy and quality control mechanism.
6. Any development tasks or assumptions that may be required to render the solution fit for purpose.
7. Any anticipated integration tasks.
8. Comprehensive contingency plan.

## 9. Bidders Qualification

1. Must submit valid Business Documents.
2. Firm should have experience similar type of work.
3. Firm must demonstrate its management capacity (website link/brochures and other documents describing similar assignments, experience, availability of appropriate professional staff and experience among applicant’s staff, resources to carry out the assignment).
4. Firm should demonstrate its logistical capability (well-equipped office space at Dhaka with necessary facilities).
5. List (Name, designation, years of experience, number of projects, expertise) of IT personals who can be engaged to perform the assigned task.

## 10. Special Note:

1. DOICT will preserve full rights to be confirmed security clearance of the personnel [if necessary] who will be working for this assignments through proper agency.
2. Contractor may need to sign separate non-disclosure agreement with DOICT considering data/information sensitivity [if needed].
3. Intellectual Property Right will strictly be controlled under regular state law for IPR protection.
4. VENDOR WILL HAVE TO HAVE CLEAR CONCEPT ON THE EXPECTED COMPONENTS BEFORE STARTING WORK.

## 11. Support/Assistance to be provided by DOICT

1. Training venue will be provided.
2. System design supports.
3. Coordination in hosting eCommerce Verification & Certification (ECVC) Framework in BCC.