



# TERMS OF REFERENCE (TOR)

For

Development and Post-Development support for  
e-Registration of Small and Cottage Industries.



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## 1. Background

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### I. Digital Bangladesh Vision:

The slogan of “Digital Bangladesh” of the Government of Bangladesh has special significance for e-governance for national development. Digital Bangladesh with Vision 2021 is a big impetus for the use of digital technology for e-governance in the country.

### II. Government initiative behind e-service:

Government has taken initiative to convert a manual service delivery system to e-services (that is services by electronic means) to the citizens of the country. For the part of government initiative, Prime minister office run A2i project which is working of establish digital Bangladesh.

### III. About the service, planned to transform as e-Service and reasons of choosing:

At first, entrepreneurs collect data or information from various source like as internet, website, UDCetc, then they come to BSCIC’s local office and apply in white paper to collect application form with checklist. After completions of form fill up with the help of staff, they submit it to BSCIC’s respective Industries Service Centre (ISC). Secondly, it put-up into file for further process and ISC chief give directive for inspection. After inspection, the respective officer submits inspection report to chief by file and checking by present situation, ISC chief take decision for approval. After approval, the entrepreneur payment of registration fees and finally get registration certificate. We hope that, overcome above situation to run the e-Registration Service for hassle free, save of time, money of regarding application process and getting certificate.

### IV. Current thinking of Ministry towards this e-service:

BSCIC always committed to put its effort for implementing govt. decisions and agenda for the interest of the country through its capacity under the guidance of Ministry of Industries. We expect that, to run the e-Registration Service Ministry provide all kind of supports.

### V. Conclusion:

BSCIC has been contributing its efforts to implement the govt. initiatives regarding Vision 2021. BSCIC developed ICT based infrastructure and services to deliver services quickly to the entrepreneurs for the interest of SCI sector. For the digital vision BSCIC has taken convert manual registration delivery service to e- registration small and cottage industries.



## 2. Review of Existing Services

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### 2.1 About the Organization

Bangladesh Small and Cottage Industries Corporation (BSCIC) is the prime mover organization in Bangladesh to support industrialization process through creation of an entrepreneurial society. BSCIC was established by an Act of the Parliament in 1957. Vision of this corporation is to accelerate the industrial growth through promotion and extension of Medium, small and cottage industries. BSCIC has been contributing its efforts to implement the govt. initiatives regarding Vision 2021: Digital Bangladesh by enhancing its capacity building through ICT arrangement. BSCIC developed ICT based infrastructure and services to deliver services quickly to the entrepreneurs for the interest of SCI sector. On demand of entrepreneur, BSCIC provide many types of services for establishment of industries. One of the remarkable services is provide industrial registration. Bangladesh Government encourages converting manual services to e-services. For that reason, with the help of A2i BSCIC draw a sketch of e-registration service for small and cottage industries from the outcome of “e-service design and planning” training workshop.

### Main Objectives of BSCIC:

- Increase of industrial production and productivity in the SCI sector
- Creation of employment opportunities.
- Poverty alleviation.
- Balanced regional growth.
- Ensure optimum utilization of economic and human resources.
- Accelerate overall economic growth of the country through SCI.

### 2.2 Existing Services (As-Is)

- As a government concerning only authority of small and cottage industries, BSCIC issues registration of small and cottage industries. Register industrial unit/project enjoys various government facilities.
- There are about 50,000 (fifty thousand) plus existing register industrial units.
- BSCIC deliver about 10,000(ten thousand) registration of small and cottage industries annually (Which is increasing day by day).
- In present registration service system, entrepreneurs collect data or information from various source like as internet, website, UDC, nearest established entrepreneurs etc. then they come to BSCIC’s local office and apply in white paper to collect application



form with checklist. After completions of form fill up with the help of staff, they submit it to BSCIC's respective Industries Service Centre (ISC). Secondly, it put-up into file for further process and ISC chief give directive for inspection. After inspection, the respective officer submit inspection report to chief by file and checking by present situation, ISC chief take decision for approval. After approval, the entrepreneur payment of registration fees and finally get registration certificate. At present total 10-12 days, 4 times visit and 600-5500tk required to completion the registration process.

## **2.3 Problems and Challenges**

- Waste of time and money due to visit several times.
- Feel hesitate to visit government office.
- Complexity to handover money.
- Lots of documents need to be submit.
- Service recipient not so interest to take manual service process.

## **3. Proposed e-Service (To-Be)**

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### **3.1 e-Service Objectives**

#### **1. Service Recipient**

- Service recipients will be get their industrial registration less time, cost, visit and hassle-free e-service process from home.
- Entrepreneur will be get a free website after getting registration from BSCIC.
- Also, they promote, sell and deliver their product with the help of BSCIC e-commerce.

#### **2. e-Service Operators (Service Provider)**

- Provide quick service to large volume of recipient within a short time.
- To maintain account payment record more easy way.
- Get different type of reports as per required within a short time.

#### **3. e-Service Observer (Service Performance Monitoring Authorities)**

- The BSCIC authority will be monitor system process real time.
- The BSCIC authority will be make quick decision/ action as per requirements.

### **3.2 e-Service Scope**

#### **1. Service Recipient**

- The applicant can submit e-registration application through website/appshassle free.
- The applicant can take renewal process through website/apps from anywhere around world.



- They are tracking application status through website/apps from anywhere.
- Make payment for application through website/apps using true online payment gateway.
- The applicant can be download/view their e-registration certificate through website/apps from anywhere.
- After getting their certificate they will be get a full free pre-defined website for promote their product in online market.
- The applicant can be Upload/Update/Delete their product in this website through apps from anywhere.
- The applicant can be sale their product through common e-commerce site as a like as Amazon.com, Alibaba.com.
- Sale the product using online payment gateway and Delivery to the recipient.
- The applicants view/known their sales/product status through website/apps from anywhere.

## **2. e-Service Operators (Service Provider)**

- The organization can take more application within a short time.
- All application easily sorting as per application category, sub-category wise without hassle, less paper work and lots of documents listing.
- The organization user can be view/download applicant's submitted application through website/apps from anywhere.
- The Service provider need to take modify/correction the application and related information about industrial unit. Also, supporting documents.
- The Service providers need to take action against any misleading/unauthentic information provided by service receipt.
- The Inspector/Field officer can be take easier identify application through website/apps from anywhere.
- After inspection Inspector/Field officer submitted their inspection report through the website/apps from anywhere.
- The organization will be getting paid amount trough online payment gateway without hassle and risk free.
- The organization can be issued certificate online copy through the system generated.
- The organization staff can be view/get different types of report as per their requirements.



- The organization can be easy way to identify how many industrial unit registration is up to date or renewal pending.
- The organization can be watch/known all company product information for future decision.
- The organization requires to upgrade/modify the functionality, feature and integration scope the vendor will be provided.

### **3. e-Service Observer (Service Performance Monitoring Authorities)**

- The BSCIC authority can be watch/monitor the e-registration system performance through the website/apps from anywhere.
- The BSCIC will be get more revenue using the system because the applicant rapidly increasing for hassle free getting the certificate.
- The BSCIC management will be get various system generated reports format as per requirements.
- The management takes easy and quick decision as per based on reports.
- The BSCIC authority can be identify suspected company for take any action.

## **4. e-Service Functional Requirements**

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### **4.1 Solution Architecture**

Solution architecture is expected to define and describe an architecture of the proposed e-Service Solution in the context of the mentioned prevailing service delivery process i.e. e-Registration of Small and Cottage Industries. The solution architecture should assist in the translation of the service to e-Service transformation requirements into a solution vision, high-level operations and/or ICT application specifications and a portfolio of implementation scope. The expected architecture of a solution, where the solution is a e-Service system that should offers a coherent set of functionalities to it's environment. As such, it should concerns those properties of a solution that are necessary and should be sufficient to meet its essential requirements. The vendor shall propose comprehensive solution architecture on 'e-Registration of Small and Cottage Industries' which may cover the following items in their descriptive and diagrammatic presentation

- Goals/Results
- Service Recipients
- e-Service Operators/User (Service Providers)
- e-Service Observers (Service Administration and Performance Monitor)



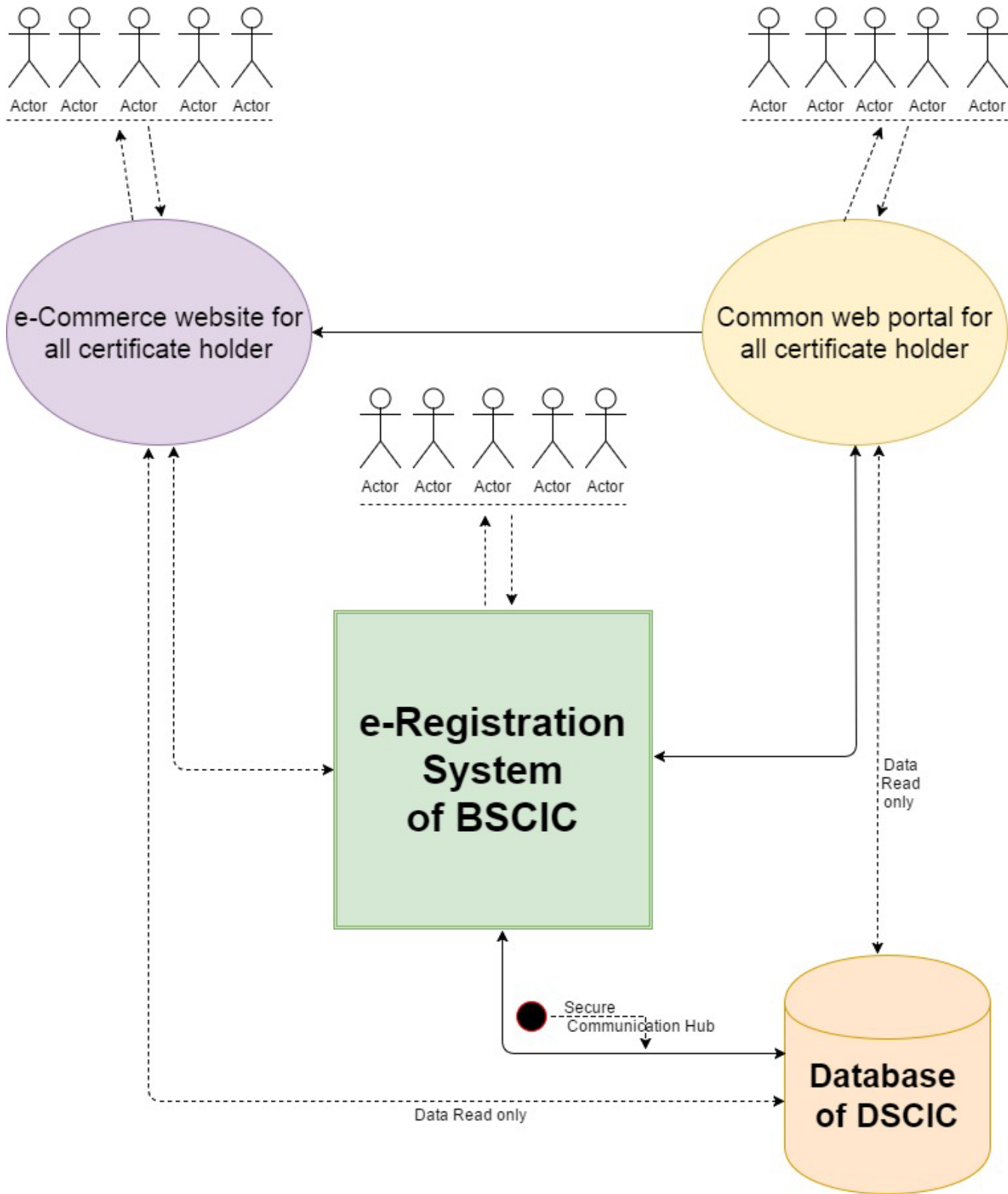
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- Database application components:
- Entity application component:
- Utility component
- System federation (Systems to be integrated)
- Process application component
- Interaction application component
- Application
- Accessible Points
- Networks
- Types or Layers of Service Delivery Points
- Hosting Site



## 4.2 e-Service Functions and Features





## **List of Modules**

- 1. Information Collection Management**
- 2. E-registration Management**
- 3. Entrepreneur Website & Apps A/C Management**
- 4. BSCIC Entrepreneur e-Commerce Management**
- 5. e-service Non-functional requirement**



# Terms of Reference (TOR) for Development and post-development support for e-Registration of Small and Cottage Industries



## Module 1: Information Collection Management

SL	System Features	Description	Actor	Media
১.	Push pull SMS or USSD based information collection	তথ্য সংক্ষিপ্ত ও স্ট্রাকচার্ড হলে এবং তাৎক্ষণিকভাবে জানার প্রয়োজন হলে এবং সেটা মোবাইলে পেতে চাইলে-	আবেদনকারী (গ্রাহক)	মোবাইল
২.	IVR based information collection	উপরিস্ত ০১ নম্বরে বর্ণিত শর্তে যারা SMS পড়তে পারেনা তাদের তথ্য জানার প্রয়োজনহলে	আবেদনকারী (গ্রাহক)	মোবাইল
৩.	Website for information service	যারা ওয়েব ব্রাউজিং করতে পারে এবং বিস্তারিত ও স্ট্রাকচার্ডভাবে তথ্য গ্রহণের প্রয়োজন হলে	আবেদনকারী (গ্রাহক)	UDC, ওয়েব
৪.	Search Engine Optimization (SEO). Like: Google	সার্চ ইঞ্জিন এর মাধ্যমে খোজা এবং তথ্য গ্রহণের প্রয়োজন হলে। যেমনঃ Google, Yahoo etc.	আবেদনকারী (গ্রাহক)	ওয়েব
৫.	Mobile apps for information service	যারা স্মার্টফোন ইউজ করে এবং মোবাইল অ্যাপস ব্যবহার করতে সক্ষম তাদেরকে তাৎক্ষণিকভাবে তথ্য প্রদানের প্রয়োজন হলে	আবেদনকারী (গ্রাহক)	স্মার্টফোন, মোবাইল, নেট
৬.	Call center for information service	তথ্য গ্রহণের ক্ষেত্রে যারা লিখতে পড়তে জানেনা অথবা বিস্তারিত কথা বলে কুয়েরি(Query) করে জানতে চায়	আবেদনকারী (গ্রাহক)	মোবাইল, ভয়েসকল

## Module 2: E-Registration Management

### 2.1 application submission and receive:

SL	System Features	Description	Actor	Media
১.	New User Registration	নতুনভাবে নিবন্ধন করার প্রয়োজন হলে মূল তথ্যাদি দিয়ে নিবন্ধন করার ব্যবস্থা করিতে হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/ অ্যাপস
২.	User Mobile No Verification	নতুন নিবন্ধন এর ক্ষেত্রে আবেদনকারীর মোবাইল নং SMS/CODE/UDP এর মাধ্যমে যাচাই করিতে হবে।	আবেদনকারী / সিস্টেম	ওয়েব/ অ্যাপস
৩.	Existing User Login	বিদ্যমান নিবন্ধন থাকলে তাহাকে ইউজার আইডি ও পাসওয়ার্ড দিয়ে লগইন করিতে হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস
৪.	User Login Verification by SMS/E-Mail	লগইন করিতে হলে প্রতিবারে ইউজার যাচাই করিতে হবে	আবেদনকারী / সিস্টেম	ওয়েব/ অ্যাপস
৫.	Applicant profile information Entry/Update	আবেদনকারীর প্রোফাইল তথ্য এবং সংশ্লিষ্ট সেবা তথ্য কার্যকরীভাবে সংরক্ষণ ও ব্যবস্থাপনার প্রয়োজনীয় ব্যবস্থা করিতে হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/ অ্যাপস
৬.	Online New Application	নতুনভাবে আবেদন করার প্রয়োজন হলে আবেদনকারীকে প্রয়োজনীয় তথ্যাদি দিয়ে আবেদন ফর্ম পূরণ করিতে হবে। আবেদন ফর্ম এর চাহিদা অনুযায়ী প্রয়োজনীয় কাগজপত্র সংযুক্ত করিতে হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/ অ্যাপস
৭.	Online Re- New Application	নিবন্ধিত শিল্পের নবায়ন করার প্রয়োজন হলে তাহার নিবন্ধন ফি দেয়ার ব্যবস্থা রেখে নবায়ন করিতে হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/ অ্যাপস
৮.	Application status tracking management	আবেদন দাখিলের পরে আবেদনের বর্তমান অবস্থা অথবা অগ্রগতি জানার প্রয়োজন হলে	আবেদনকারী (গ্রাহক)	ওয়েব/ অ্যাপস
৯.	Application register management	আবেদনপত্র তালিকা করার প্রয়োজনে রেজিস্টার ব্যবস্থা থাকতে হবে।	সিস্টেম	ওয়েব
১০.	Application history manage	গ্রহণকৃত আবেদনপত্রের তথ্য বিস্তারিতভাবে সংরক্ষণ করার ব্যবস্থা থাকতে হবে।	সিস্টেম	ওয়েব
১১.	Application Sorting	গ্রহণকৃত আবেদনগুলো বিভিন্ন শর্তাবলীর সাপেক্ষে বাছাইকরণের ব্যবস্থা থাকতে হবে।	সিস্টেম	ওয়েব
১২.	Application Search Option	সংরক্ষিত আবেদনপত্রের মধ্য থেকে কাঙ্ক্ষিত আবেদনপত্র তাৎক্ষণিকভাবে খোঁজার ব্যবস্থা থাকতে হবে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব/ অ্যাপস
১৩.	Received Application Register Management	আবেদনগুলো বিস্তারিতভাবে তালিকা আকারে ব্যবস্থাপনার ব্যবস্থা থাকতে হবে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব



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### 2.2 Previous document digitalization

SL	System Features	Description	Actor	Media
১.	Document entry into the syStem	সেবার তথ্য সম্বলিত হার্ডকপিকে সফটকপিতে রূপান্তরিত করার ব্যবস্থা করিতে হবে।	ডাটা এন্ট্রি অপারেটর	ওয়েব, পিসি
২.	Document edit into the system	রূপান্তরিত ডিজিটাল সফটকপির কোনরূপ পরিবর্তন ও সংযোজনের ব্যবস্থা করতে হবে।	ডাটা এন্ট্রি অপারেটর	ওয়েব, পিসি
৩.	Batch/Category/Sub-Category wise document segregation management	একসাথে অধিক সংখ্যক ডকুমেন্ট ডিজিটালাইজেশন প্রক্রিয়াকে কার্যকরীভাবে ব্যবস্থাপনা করার ব্যবস্থা থাকতে হবে।	সিস্টেম ইউজার, এন্ট্রি অপারেটর	ওয়েব, পিসি
৪.	Date Entry Roster Management	ব্যাচ এন্ট্রির ক্ষেত্রে ডাটা এন্ট্রি অপারেটরদের কার্যক্রম শিডিউল ও পরিকল্পিত উপায়ে ব্যবস্থাপনার ব্যবস্থা থাকতে হবে।	সিস্টেম ইউজার	ওয়েব, পিসি
৫.	Document entry register management	রূপান্তরিত ডিজিটাল সফটকপিসমূহ বিস্তারিতভাবে তালিকা আকারে ব্যবস্থাপনার ব্যবস্থা থাকতে হবে।	সিস্টেম উজার	ওয়েব, পিসি
৬.	Document Template Modification management	নির্ধারিত ফরম্যাটে তৈরি ডকুমেন্ট কিছু তথ্যের উপর ভিত্তি করে বারংবার তৈরি করার ব্যবস্থা থাকতে হবে।	সিস্টেম উজার	ওয়েব, পিসি
৭.	Document library management	প্রসেসড ডকুমেন্টকে দ্রুত খুঁজে কার্যকরীভাবে রাখার ব্যবস্থা করিতে হবে।	সিস্টেম উজার	ওয়েব, পিসি
৮.	Reports on document digitalization	ডকুমেন্ট ডিজিটালাইজেশন কার্যক্রম সম্পর্কিত রিপোর্ট এর ব্যবস্থা করিতে হবে।	সিস্টেম উজার	ওয়েব, পিসি
৯.	Dashboard on Document digitalization management	তাৎক্ষণিকভাবে এবং সরাসরি ডকুমেন্ট ডিজিটালাইজেশন প্রক্রিয়াকে মনিটরিং করার প্রয়োজনীয় ব্যবস্থা করিতে হবে (যেকোন সময় যেকোন স্থান থেকে)	সিস্টেম উজার	ওয়েব, পিসি
১০.	Documentation Indexing / Register management	বিস্তারিত ও সুশৃঙ্খলভাবে ডকুমেন্ট ডিজিটালাইজেশন প্রক্রিয়াকে তালিকাভুক্ত করার ব্যবস্থা করিতে হবে।	সিস্টেম ইউজার, এন্ট্রি অপারেটর	ওয়েব, পিসি

### 2.3 Registration service process Management

SL	System Features	Description	Actor	Media
০১.	Inspector Schedule Assign Management with E-filing	পরিদর্শকদের তালিকা নিবন্ধিকরণ এর ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে পরিদর্শকদের তালিকা তৈরী করিতে পারিবে।	সিস্টেম	ওয়েব/অ্যাপস
০২.	Inspection Schedule Management with E-filing	পরিদর্শনের তালিকা প্রস্তুতকরণ এর ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে পরিদর্শনের তালিকা তৈরী করিতে পারিবে।	সিস্টেম	ওয়েব/অ্যাপস
০৩.	Inspection Roster Duty Assign Management with E-filing	পরিদর্শন রোস্টার ডিউটি তৈরী করার ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে পরিদর্শন রোস্টার ডিউটির তালিকা তৈরী করিতে পারিবে।	সিস্টেম	ওয়েব/অ্যাপস
০৪.	Inspection Report Entry and Submit Management with E-filing	সংশ্লিষ্ট সকল পরিদর্শনের প্রতিবেদন প্রস্তুত করার ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে পরিদর্শন প্রতিবেদন তৈরী করিতে পারিবে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব/অ্যাপস
০৫.	Inspection /Verification Approval with E-filing	পরিদর্শনের অনুমোদন/ তথ্য যাচাই করার ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে পরিদর্শন অনুমোদন করিতে পারিবে।	অনুমোদনকারী কর্মকর্তা	ওয়েব/অ্যাপস
০৬.	Provision to Multi Level Inspection / Verification Define by Authority	প্রয়োজন অনুযায়ী কয়েক ধাপে পরিদর্শন / তথ্য যাচাই করার ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে পরিদর্শন / তথ্য যাচাই করিতে পারিবে।	অনুমোদনকারী কর্মকর্তা	ওয়েব/অ্যাপস
০৭.	Entry Inspection / Verification report to the system	পরিদর্শনের প্রতিবেদন প্রস্তুত করে সিস্টেমে এন্ট্রি দেওয়ার ব্যবস্থা থাকিতে হবে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব/অ্যাপস
০৮.	Notification for Certificate Delivery by SMS & E-Mail	পরিদর্শনের নটিফিকেশন দেওয়ার ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে সিস্টেম প্রত্যেক ধাপে আবেদনকারী ও অনুমোদনকারী কর্মকর্তাকে নটিফিকেশন দিবে।	সিস্টেম	ই-মেইল, এসএমএস
০৯.	Multi-Level Dashboard Management	কয়েক ধরনের ড্যাশবোর্ড থাকিতে হবে, যাহার মাধ্যমে দায়িত্বপ্রাপ্ত কর্মকর্তা, অনুমোদনকারী কর্মকর্তা, ও পরিদর্শনকারীরা তাদের কার্যক্রম প্রক্রিয়া দেখার ব্যবস্থা থাকিতে হবে।	সিস্টেম/ দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব/অ্যাপস



## 2.4 Payment Management

SL	System Features	Description	Actor	Media
১.	Registration Confirmation Management from E-filing	<b>E-filing System</b> হতে নিবন্ধন প্রদানের অনুমোদনের প্রাপ্তির সাপেক্ষে সেবাগ্রহীতাকে নিশ্চিতকরণ ব্যবস্থা থাকিতে হবে, যাহার মাধ্যমে সিস্টেম গ্রহীতাকে কে নটিফিকেশন দিবে।	সিস্টেম	ওয়েব
২.	Notification for Payment Details by SMS & E-Mail for Application fee	আবেদনকারীকে নিবন্ধন ফি পরিশোধের জন্য নটিফিকেশন দেওয়ার ব্যবস্থা থাকিতে হবে যাহার মাধ্যমে আবেদনকারীকে নটিফিকেশন দেওয়া হবে।	সিস্টেম	ই-মেইল, এসএমএস
৩.	Application Fee Payment by Secure Online Payment Gateway	আবেদনকারীকর্তৃক নিবন্ধন ফি অনলাইনে এর জন্যে পেমেন্ট অপশন বাছাই করিতে পারিবে। অনলাইন পেমেন্ট গেটওয়ে মাধ্যমে নিবন্ধন ফি পরিশোধ করিতে পারবে।	আবেদনকারী/ সিস্টেম/ পেমেন্ট গেটওয়ে	মোবাইল ব্যাংকিং, অনলাইন পেমেন্ট
৪.	Notification for Online Payment Confirmation by SMS & E-Mail	আবেদনকারীকে নিবন্ধন ফি জমার নিশ্চিত করার লক্ষে নটিফিকেশন দেওয়ার ব্যবস্থা থাকিতে হবে যাহার মাধ্যমে আবেদনকারীকে নিবন্ধন ফি জমা নিশ্চিত হয়েছে তাহার নটিফিকেশন দেওয়া হবে।	সিস্টেম	ই-মেইল, এসএমএস
৫.	Collection Register Management	নিবন্ধন ফি সমূহ বিস্তারিতভাবে তালিকা আকারে ব্যবস্থাপনার ব্যবস্থা করিতে হবে।	সিস্টেম	ওয়েব, পিসি
৬.	Collection History Management	নিবন্ধন ফি জমার ইতিহাস বিস্তারিতভাবে ব্যবস্থাপনার ব্যবস্থা করিতে হবে।	সিস্টেম	ওয়েব, পিসি
৭.	Multiple Collection Report	নিবন্ধন ফি সমূহ এর জমার রিপোর্টস বিস্তারিতভাবে দেখার ব্যবস্থা করিতে হবে। দায়িত্বপ্রাপ্ত কর্মকর্তাদের চাহিদা অনুযায়ী নিবন্ধন ফি জমার বিভিন্ন রিপোর্টস দিতে হবে।	সিস্টেম /দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব, পিসি

## 2.5 Registration Certificate Delivery Management

SL	System Features	Description	Actor	Media
১.	Certificate preparation by Digital Signature and Consideration Security Risk. Like; Bar Code/ QR Code	নিবন্ধন সনদ প্রস্তুত এর ব্যবস্থা করার লক্ষে সনদ এর মধ্যে ডিজিটাল স্বাক্ষর, কিউআরকোড/বারকোড থাকিতে হবে।	সিস্টেম	ওয়েব
২.	Certificate Issue Management	নিবন্ধন সনদ ইস্যু করার সময় সনদ এ সকল তথ্যাদি যাচাই করিতে হবে।	সিস্টেম	ওয়েব
৩.	Registration Certificate Database/ Archive	নিবন্ধন সনদ তালিকা আকারে সংরক্ষণ করিতে হবে।	সিস্টেম	ওয়েব
৪.	Reports on Certificate approval & processing	নিবন্ধন সনদ অনুমোদন ও প্রক্রিয়াকরণের ব্যবস্থা থাকিতে হবে যাহার মাধ্যমে নিবন্ধন সনদ অনুমোদন দেওয়া হবে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব
৫.	Certificate Issued by Authority	নিবন্ধন সনদ ইস্যু এর ব্যবস্থা থাকিতে হবে যাহার মাধ্যমে দায়িত্বপ্রাপ্ত কর্মকর্তারা আবেদনকারীকে ও রিজিট্রাল সনদ বিতরণ করিতে পারে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব
৬.	Notification for Certificate Issued by SMS & E-Mail	আবেদনকারীকে নিবন্ধন সনদ ইস্যু নিশ্চিত করার লক্ষে নটিফিকেশন দেওয়ার ব্যবস্থা থাকিতে হবে যাহার মাধ্যমে আবেদনকারীকে সনদ ইস্যু হয়েছে তাহার নটিফিকেশন দেওয়া হবে।	সিস্টেম	ই-মেইল, এসএমএস
৭.	Certificate Delivery Schedule Management	সনদ ডেলিভারি করার ক্ষেত্রে অপেক্ষামান তালিকার অন্তর্ভুক্ত করার ব্যবস্থা করিতে হবে।	সিস্টেম	ওয়েব
৮.	Certificate delivery information search and sorting	সনদ ডেলিভারি তালিকা হতে তাৎক্ষণিকভাবে সার্চ করে তথ্য জানতে হলে অনুসন্ধান করার ব্যবস্থা থাকিতে হবে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব
৯.	Certificate delivery status manage	সনদ ডেলিভারি করার পর সার্ভিস স্ট্যাটাসকে পরিবর্তন করার ব্যবস্থা থাকিতে হবে।	দায়িত্বপ্রাপ্ত কর্মকর্তা	ওয়েব





## Terms of Reference (TOR) for Development and post-development support for e-Registration of Small and Cottage Industries



১০.	Registration Certificate Dispatch/Deliver Registration	সনদ ডেলিভারির তথ্য রেজিস্ট্রি আকারে লিপিবদ্ধ করে রাখার ব্যবস্থা থাকিতে হবে।	সিস্টেম	ওয়েব
১১.	Certificate delivery history management	সনদ ডেলিভারি সংশ্লিষ্ট তথ্য সংরক্ষণ এবং বিস্তারিতভাবে ব্যবস্থাপনা থাকিতে হবে।	সিস্টেম	ওয়েব
১২.	Certificate delivery reports	সনদ ডেলিভারি সম্পর্কিত বিভিন্ন প্রকার রিপোর্ট তৈরি করার প্রয়োজনীয় ব্যবস্থা থাকিতে হবে।	সিস্টেম ইউজার	ওয়েব
১৩.	Certificate delivery dashboards	সনদ ডেলিভারি সংক্রান্ত তথ্য তাৎক্ষণিকভাবে বর্তমান অবস্থানের উপর পর্যবেক্ষণের প্রয়োজন হলে ড্যাশবোর্ড থাকিতে হবে, যাহার মাধ্যমে দায়িত্বপ্রাপ্ত কর্মকর্তা, অনুমোদনকারী কর্মকর্তা সনদ ডেলিভারি সংক্রান্ত তথ্য দেখার ব্যবস্থা থাকিতে হবে।	সিস্টেম	ওয়েব

### 2.6 Complain and Others

SL	System Features	Description	Actor	Media
০১.	Feedback/Complain Form Launching	সার্ভিস নিয়ে মতামত ও অভিযোগ প্রদানের ব্যবস্থা করতে হবে। যার মাধ্যমে আবেদনকারী তাহার মতামত ও অভিযোগ প্রদান করিতে পারিবে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস
০২.	Feedback/Complain Response management	সার্ভিস সংক্রান্ত অভিযোগের উত্তর ব্যবস্থাপনায় কার্যকরী পদক্ষেপ প্রদানের ব্যবস্থা করতে হবে, যার মাধ্যমে আবেদনকারী তাহার মতামত ও অভিযোগের উত্তর পেতে পারে।	সিস্টেম ব্যবহারকারী	SMS, ইমেইল, ওয়েব/অ্যাপস
০৩.	Complain Management Notification (SMS/Email)	অভিযোগ সংক্রান্ত তাৎক্ষণিক অবিহিতকরণ বিষয় থাকলে কার্যকরী পদক্ষেপ প্রদানের লক্ষে তাহাকে এসএমএস, ইমেইল এর মাধ্যমে অবিহিত করার ব্যবস্থা করতে হবে।	আবেদনকারী/ সিস্টেম ব্যবহারকারী	SMS, ইমেইল, ওয়েব/অ্যাপস
০৪.	Feedback/Complain history manage	অভিযোগ সংক্রান্ত তথ্য বিস্তারিতভাবে সংরক্ষণের ব্যবস্থাপনা করিতে হবে।	সিস্টেম/ ব্যবহারকারী	ওয়েব
০৫.	Complain report manage for Management Decision	অভিযোগ সংক্রান্ত বিভিন্ন প্রকার রিপোর্ট তৈরি করার ব্যবস্থা থাকিতে হবে।	সিস্টেম/ ব্যবহারকারী	ওয়েব
০৬.	Complain dashboard	অভিযোগকৃত প্রক্রিয়াকরণের সকল তথ্য তাৎক্ষণিকভাবে Real Time এ পেতে চাইলে তাহার ব্যবস্থা থাকিতে হবে।	সিস্টেমব্যবহারকারী	ওয়েব, পিসি
০৭.	Blog / Service Forum	সেবা সংশ্লিষ্ট বিষয়ে প্রোভাইডার ও গ্রহীতার মধ্যে আলোচনা, মতামত এবং মন্তব্য শেয়ারিং এর প্রয়োজন হলে তাহার ব্যবস্থা থাকিতে হবে।	আবেদনকারী/ সিস্টেম ব্যবহারকারী	মোবাইল, নেটব্রাউজার, ওয়েব

### Module 3: Entrepreneur Website & Apps A/C Management

SL	System Features	Description	Actor	Media
০১.	Generate Common website	সনদ প্রাপ্তির পরে প্রত্যেক আবেদনকারীর জন্য একটি করে আটোমেটিক ওয়েব সাইট তৈরী হবে।	সিস্টেম	ওয়েব
০২.	Login Management	আটোমেটিক ওয়েব সাইট এ লগইন করিতে হবে	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস
০৩.	Applicant profile information Management	আবেদনকারীর প্রোফাইল তথ্য এবং সংশ্লিষ্ট সেবার তথ্য কার্যকরীভাবে সংরক্ষণ ও ব্যবস্থাপনার প্রয়োজন হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস
০৪.	Applicant website Company information Management	আবেদনকারীর কোম্পানীর তথ্য কার্যকরীভাবে সংরক্ষণ ও ব্যবস্থাপনার প্রয়োজন হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস
০৫.	Applicant website logo, banner Management	আবেদনকারীর কোম্পানীর লোগো, ব্যানার তথ্য কার্যকরীভাবে সংরক্ষণ ও ব্যবস্থাপনার প্রয়োজন হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস
০৬.	Applicant website Product Management	আবেদনকারীর ওয়েব সাইট এ তাহার সকল পণ্য আপলোড/সম্পাদন/বাতিল এর সুবিধা থাকবে। পণ্য এর ধরন ও উপ-ধরনে ভাগ করার সুবিধা থাকবে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস



## Terms of Reference (TOR) for Development and post-development support for e-Registration of Small and Cottage Industries



০৭.	Notice Board Management	আবেদনকারীর ওয়েব সাইট এর সকল প্রকার নোটিস দেখাতে হবে।	ওয়েব সাইট পরিদর্শক / আবেদনকারী	ওয়েব/অ্যাপস
০৮.	Feedback/Complain Management	মতামত ও অভিযোগ প্রদানের সুযোগ রাখতে হবে।	ওয়েব সাইট পরিদর্শক	ওয়েব/অ্যাপস
০৯.	Feedback/Complain Response management	অভিযোগের উত্তর ব্যবস্থাপনায় কার্যকরী পদক্ষেপ প্রদানের ব্যবস্থা থাকতে হবে, যার মাধ্যমে আবেদনকারী তাহার মতামত ও অভিযোগ উত্তর পেতে পারে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস

### Module 4: BSCIC Entrepreneur e-Commerce Management

SL	System Features	Description	Actor	Media
০১.	e-Commerce website Product Management	ই-কমার্স ওয়েবসাইট এ সকল আবেদনকারীর ওয়েব সাইটে আপলোডকৃত প্রোডাক্ট সমূহ দেখাতে হবে। পন্য এর ধরন ও উপ-ধরনে ভাগ করার সুবিধা থাকবে।	সিস্টেম	ওয়েব/অ্যাপস
০২.	Order Management	ই-কমার্স ওয়েবসাইট এর মাধ্যমে পন্য ক্রয়ের আদেশ দিতে পারিবে। ক্রেতা চাইলে আবেদনকারীর ওয়েব সাইটে গিয়ে ও অনুরূপ পন্য ক্রয়ের আদেশ করিতে পারিবে।	ক্রেতা/ আবেদনকারী	ওয়েব/অ্যাপস
০৩.	Delivery Method Management	পন্য ক্রয়ের আদেশ প্রাপ্তির সাথে ডেলিভারি অপশন বাছাই করিতে দিতে হবে।	ক্রেতা/ আবেদনকারী	ওয়েব/অ্যাপস
০৪.	Discount/Special Offer Management	পন্যের সকল প্রকার মূল্য হ্রাস ও বিশেষ ছাড় দেয়ার ব্যবস্থা থাকিতে হবে।	আবেদনকারী (গ্রাহক)	ওয়েব/অ্যাপস
০৫.	Payment Management	পন্যের মূল্য পরিশোধ এর জন্যে পেমেন্ট অপশন বাছাই করিতে পারিবে। অনলাইন পেমেন্ট গেটওয়ে মাধ্যমে পন্যের মূল্য পরিশোধ করিতে পারবে।	ক্রেতা/ আবেদনকারী	ওয়েব/অ্যাপস
০৬.	Delivery Management	পন্য ডেলিভারি করার ব্যবস্থা করিতে হবে। a2i এর ডেলিভারি অপশন ব্যবহারের সুবিধা রাখতে হবে।	ক্রেতা/ আবেদনকারী	A2i
০৭.	Notification Management	প্রত্যেক ধাপে নোটিফিকেশন নিশ্চিত করিতে হবে।	সিস্টেম	ই-মেইল, SMS

\* Vendor should add any relevant requirement during the preparation of SRS.

### 4.3 Users and User Roles

SL	Users	Role	Offices	Frequenc y	Media
১.	সেবা গ্রহণকারী	গ্রাহক	-	১০,০০০+	ওয়েব/ অ্যাপস
২.	সেবা প্রধানকারী	অফিস সহকারী, সংশ্লিষ্ট/সম্প্রসারণ কর্মকর্তা, হিসাব রক্ষক/অফিসার, অফিস প্রধান	১৫০	৬০০+	ওয়েব/ অ্যাপস
৩.	সেবা পরিচালনাকারী	অফিস প্রধান, সুপার এডমিন, এডমিন, আঞ্চলিক পরিচালক, পরিচালক, চেয়ারম্যান	৯০	৪০০+	ওয়েব/ অ্যাপস
৪.	ক্রেতা	গ্রাহক	-	২০,০০০+	ওয়েব/ অ্যাপস

Vendor should submit a comprehensive plan and approach covering different types of users and their roles providing accessibility, privacy, confidentiality and transparency based on the given statics. Also have to mention the user friendliness login system.



**Special note: Who has the e-Filing integration option:**

If the proposed e-Service application needs to integrate and interoperable with government prescribed e-Filing system (a2i e-Filing) then vendor should have design the seamless, smooth and user friendly single login system.

**4.4 Security and Privacy Requirements**

The vendor should submit an extensive and complete security and privacy plan for this e-Service application considering the following issues

- Project technical scope
- Functional and nonfunctional requirements and ultimate objectives
- Concerned service provider organization’s operational environments and capacity
- User roles - Accessibility, Authorization and Accountability
- Importance of data management
- Technologies to be used for development & running
- Hosting
- Client and service side
- Overall standard application security requirements.

Apart from these, the vendor should keep in account the following considerations also as well as vendor should provide a checklist based on system and hosting security plan (i.e. fraud, hacking, money laundering etc.) & have to provide the test report of that checklist.

**4.5 Integration Requirements**

As a government system or e-Service application, integration with the required and other prescribed national system is very important and essential. Only by proper integration making interoperable , an e-Service application can drive the ultimate citizen benefits with the optimum use of technology from service to e-Service transformation. Here vendor should come up with an integration plan in their technical proposal considering and understanding the scope of the e-Service application as per this TOR. The possible integration scopes of this e-Service application are mentioned below as reference for the vendor

SL	Features Name	Description	Organization
০১.	NID/Passport/Birth Registration Integration	আবেদনকারীর এনআইডি/জন্ম নিবন্ধন/পাসপোর্ট যাচাইকরণ এর জন্যে ইন্টিগ্রেশন করিতে হবে।	Government Organization
০২.	SMS Gateway Integration	এসএমএস নোটিফিকেশন দেওয়ার জন্যে এসএমএস গেটওয়ে ইন্টিগ্রেশন করিতে হবে।	Taletalk
০৩.	Payment Gateway Integration	অনলাইন পেমেন্ট জন্যে অনলাইন পেমেন্ট গেটওয়ে ইন্টিগ্রেশন করিতে হবে।	N/A
০৪.	National Portal Framework Integration	বিভিন্ন তথ্য পাওয়ার জন্যে জাতীয় তথ্য বাতায়ন এর সাথে ইন্টিগ্রেশন করিতে হবে।	a2i
০৫.	UDC Integration	গ্রাম পর্যায় সেবা দেওয়ার লক্ষে ইউনিয়ন ডিজিটাল সেন্টারের সাথে ইন্টিগ্রেশন করিতে হবে।	a2i
০৬.	E-Filing	আবেদন গ্রহন থেকে শুরু করে সনদ ইস্যু পর্যন্ত সকল প্রকার প্রক্রিয়াকরণের কার্যাদি সম্পাদন করার লক্ষে ই-ফাইলিং সিস্টেমের সাথে ইন্টিগ্রেশন করিতে হবে।	a2i





#### 4.5.1 **Payment Gateway**

Using this facility, Citizen will pay their own fees/tax using their existing bank accounts/debit card/mobile bank account. CDC and COC can pay other citizens fees/tax from their bank accounts/debit card/mobile bank account.

#### 4.5.2 **Benefits of Online Payment**

The gateway will ensure online payment option through most merchant banks and mobile financial service accounts.

#### 4.5.3 **Benefits for Service Recipient:**

- Electronic payment system that will reduce handling of cash money.
- Reduced visit to KCC cash counter or Bank
- Direct payment of all fees and tax to KCC bank account from citizens/CDC financial account.

#### 4.5.4 **Benefit for KCC**

- Direct payment of all fees and tax to KCC bank account from citizens/CDC financial account.
- Online transaction report of overall revenues from tax and fees.

#### 4.5.5 **Vendor Responsibility**

##### 4.5.5.1 **Payment Components**

Vendor will ensure below features to facilitate online payment option in smart KCC

- A list of all licensed payment gateways through which citizen/CDC will choose a suitable payment gateway.
- All technical features and parameters to activate payment gateways in Smart KCC system.

##### 4.5.5.2 **Payment Collaboration**

If software vendor does not have valid license to operate online payment gateway, the vendor can make a consortium with government approved payment gateway companies to facilitate online payment for Smart KCC. It needs to be mentioned here that software vendor will be the prime bidder and must take the responsibility of all online payment service quality and must submit consortium or joint venture agreement document.

#### 4.5.6 **Payment Gateway Eligibility Criteria**

##### 4.5.6.1 **Legal entity**

- The service provider should be a listed limited company in Bangladesh.
- Service provider should have proper license/NOC to operate as online payment gateway from Bangladesh Bank.
- Payment Gateway should have at least 2 years of experience in the field of local or International payment gateway services.
- Government owned/operated platform will get preference.

##### 4.5.6.2 **Security**

- Solution should comply with all standard security features, message protocols and encryption.
- Payment Gateway should have DC and DR as per international standard guideline.
- Payment Gateway should comply with international monetary security standard financial payment related auditors.
- Authentication options should support below or equivalent features:



- PAN &iPIN
- PAN &iPIN + DPA/CAP ( Tokenized PIN generators)
- PAN &iPIN + Mobile OTP
- PAN & Certificate
- PAN & Password ( PIN is numeric & Password is Alphanumeric)

#### 4.5.6.3 **Technical Capacity and Features:**

- Solution should have dynamic Enrollment Options like:
  - Internet Banking application
  - Application-based
    - Solution should support interface with International Payment Gateway (like VISA, Master, AMEX, etc.) and NPS.
    - Payment Gateway solution should keep its own database of orders and transactions.
    - Payment Gateway needs to have good order management :
  - Acceptance, logging and tracking
  - Payment, reversal and cancellation
  - Optional digital signature of orders
    - Payment Gateway needs to have specific support for multiple KCC:
  - Customized set of page for KCC
  - Ability to interact with different hosts, based on KCC specific configuration and card number
  - Payment processing rules for KCC.
  - Clearing & settlement cycle separate for KCC
  - Configurable set of operations available KCC
    - Payment processing:
      - Pluggable, SOAP-based, interface to merchant provides order management, clearing & settlement functions
      - API for customer preprocessing modules, that can enable fraud-screening and other functionality
      - Notification via e-mail of both customer and service provider of all (or a configurable subset) of transactions being processed
        - Payment Gateway should have SERVICE PROVIDER PORTAL facility for merchant
      - Visual access to order information from TW e-Commerce Payment Gateway.
      - Reporting facilities for transactional data.
      - Merchant statement retrieval with settlement and reconciliation information.

#### 4.5.6.4 **Experience & Partnership:**

- Payment Gateway should support to do settlement & reconciliations for multiple Banks & multiple institutions.
- Payment Gateway should be experienced in the field of government organizations payment services.
- Should have payment connectivity among major merchant banks and financial institutions in Bangladesh.

#### 4.5.6.5 **Support**

- Payment Gateway should provide nationwide 24 X 7 X 365 service & support.
- Payment Gateway must have regional office in Khulna.
- Payment Gateway should have central monitoring system.

## 4.6 **Hosting Requirements**

Bangladesh Government is providing an extensive and standard hosting facility for all types of government organization applications and software that is named as National Data Center



under Bangladesh computer council (BCC). It may be mentioned here that the vendor developed application will be hosted in government provided data center i.e. National data center (NDC) or **Bangladesh Small and Cottage Industries Corporation (BSCIC)** own data center. Therefore, at this stage, vendor is requested to submit a preliminary hosting plan for this e-Service application considering the issues mentioned below-

- Hosting requirement /environment (hardware, servers, network, security, storage, traffic, firewall, bandwidth etc.)
- Hosting architecture
- Data growth and scalability plan
- User handling/load balancing mechanism
- Licensing issues
- Scheduled backup & restore requirements
- Disaster recovery requirements
- Monitoring tools requirements

## **5. e-Service Non-Functional Requirements**

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### **5.1 Application Compliance Requirements**

#### **5.1.1 Web Application**

- The application which is a web based solution, has to be hosted in a centralized Web-server
- The application should be developed following Service Oriented Architecture (SOA)
- Application should support MVC framework.
- Considering the operating/client environment at different level of this application, it should be developed in such a way so that it requires low bandwidth to run.
- The web-based application should support cross browser platforms (popular web-browsers such Mozilla Firefox, Opera, Chrome, Internet Explorer, Safari etc.)
- Should have ability to seamless integration with future module/components/applications
- Application should be lightweight and rich client-side scripting
- UI should be developed based on the analysis of UX.
- Any web interface of this application should be fully responsive

#### **5.1.2 Mobile Application Requirements**

- The mobile application version of the system should be developed for Android and iOS.
- The mobile app should have capability of displaying system notifications
- Functionality for registration options for service recipients
- App should enable compact view of services for service recipients.
- There should be an option to auto synchronization with the central database with apps local database on the availability of the Internet connectivity.



## **5.2 Sizing, Performance and Scalability Requirements**

- The system shall be capable of handling online functionalities for a database of at least 02 years service recipients and in terms of service provide 64 Offices and 150 System Users.
- The system processing shall be scalable to support the volume estimates for a period of 10 years at a 20% annual growth rate.
- The system shall be designed to handle estimated Medium Scale: 2000 simultaneous connection (online users) when it is ultimately rolled out.
- The vendor must conduct an extensive load testing task taking above factors into consideration and submit a load testing results.
- The database architecture should be such that the system is available to user 24x7x365 days a year without any unapproved downtime.
- Page load time, login response-time, on-click load time for the web application should be less than 3 seconds while this is accessed over the intranet.
- Average transaction response time, on-submit response-time, or any other database access/search time should be less than 5 seconds when the system solution is accessed over the intranet.
- Considering the network infrastructure challenges in Bangladesh, the solution must support low bandwidth conditions for the services defined in the functional requirements.
- Incase of mobile application also, this should support very low bandwidth even in 2G network provided internet bandwidth.
- The proposed solution should be highly scalable to accommodate current and future requirements within the scope of the scope mentioned in the TOR
- Analyze the requirements whether both horizontal scaling (scale-up) and vertical scaling (scale-up) will be required for this e-Service application or not?
- The e-Service application should be provided with appropriate caching mechanism to handle very high-traffic scalability
- The vendor may propose here other relevant measures for the e-Service application scalability.

## **5.3 Business Continuity**

Business Continuity plan will play a very important role by creating the systems of prevention and recovery to deal with potential threats and risk of the e-Service operation. Vendor is requested to propose a Business Continuity Plan for this e-Service application. Regarding business continuity you may take in account the followings issues if applicable or suitable for this e-Service Application



- All standard backup facilities should be supported by the system which can be started with disk based backup facility, gradually moving to Storage Area Network (SAN) based backup system.
- Data and the Operating system core component will be separated. A ghost image of the Operating system will always be available in case of rebuilding the server. All data can be restored in the data drive once the Operating System is restored.
- System can also have an automated Backup mechanism by which users can schedule the backups and the system will take the backups without manual intervention.
- System must check for the media and generate a report on backup with date time and details of backup.
- If a restoration fails for any reason, the system should prompt with proper error messages and suggest what has to be done to rectify the situation via on-screen, logs, email and text messages.
- System should maintain an automated recovery system and all versions of backup will be maintained. At any given point in time, the versions and incremental backup details can be retrieved from the system.
- The system may be hosted in virtual servers or containers. A restore of a virtual server/container is much easier and faster compared to a single host server.

#### **5.4 Interoperability and Data Exchange**

The selected vendor must develop this e-Service system following all the standards and protocols of interoperability, integration and data exchange with other systems. It is expected that the system will be based on open architecture and will be fully interoperable with the current and future systems.

**The following are the key expectations on interoperability requirements:**

1. The system should be designed for interoperability using industry standard protocols.
2. System must expose data by Advanced Message Queuing Protocol and REST via TLS
3. All imported data must undergo data validation to ensure full integrity.
4. Data exchange within the system at different levels via the internet shall be encrypted.
5. The system should have functionality to exchange data with other own systems or external institute systems.
6. The system shall have functionality to export/import files based on the standard template defined through web services and/or API

Full API documentation must be provided so that third party integrators can integrate their system with this system.

#### **5.5 System Audit**

This e-Service system will maintain an audit trail of any changes or updates made in any information that are considered as vital and should maintain the audit log with information such as

- Log the users who are accessing the system



- Log the parts of the application that are being accessed
- Log the fields that are being modified
- Log the results of these modifications
- Log attempted breaches of access
- Log attempted breaches of modification rights
- Timestamp.

Ensure an audit trail is kept for all transactions and all audit transactions logged are kept on the trail file or trail database from where system can generate different audit reports as and when required.

## **5.6 UI/UX.**

The vendor must propose a UI/ UX plan containing UI designing method and tools, prototype or Mockup design (if applicable) , UI review method , process for study and analyze UX , collaboration of basic web and mobile UX issues and expected result and outcome of UX, finalizing the UI/UX design. Apart from this, the vendor should consider the following issues as requirement at the time of UI/UX plan.

- The system interfaces should be highly user friendly, easy to navigate and ensure fast loading.  
The UI shall design by using well-established, supported and lightweight UI framework so that it follows widely used industry flow patterns.
- UI shall be easily configurable if any changes are needed
- Menu, content and navigation shall be based on the user entitlements, roles and permissions.

## **5.7 Language Support**

The e-Service system should support multilingual option i.e. Bangla and English for both the Web version and Mobile Apps. All the user interfaces will be able to display and input controls can take input both in Bangla and English. System/App users can choose and set his/her preferred language in profile setting for the system interfaces. The system should support Unicode for the Bangla Language.

## **5.8 Accessibility**

Vendor must develop this e-Service application ensuring access for the citizen (Service Recipients) with disabilities in different standard accessible formats. e-Service application should be developed in “universal design” and “assistive technologies”. Accepting and facilitating the use of





sign languages, augmentative and alternative inputs and all other accessible means, modes and formats for inputs and outputs as per their choice by “Service Recipients” with disabilities; All e-service features (Web application or Mobile Application) should be usable with the help of screen reading software by the service recipients with disability

## **5.9 Coding Conventions**

The vendor must follow the standard coding styles to produce high-quality code for further uses of the code in terms of reusability, refactoring, task automation, language factors etc. The vendor should submit a standard coding convention approach, which may include different conventions like commenting, indent style, naming etc. following the best coding practices.

## **5.10 Documentation**

Detail and proper documentation of such ICT based project like e-service application development and implementation for Government is very vital and essential. Documentation is required for any such project as reference, knowledge transfer, analysis of development and implementation history, baseline information for any modification or change, guidance etc. In this issue, Vender should shows highest-level of professionalism for delivering the standard documentation approach at each phase of e-Service development and implementation project. Vendor should include an extensive documentation plan of this project in their technical proposal, which may cover the followings

- Documents titles phase or activity wise
- Purpose of document
- About the format of documents (if possible only index or fields)
- Type of expert and skilled resource will be used for documentation
- Document priority and dependency
- Time requirement for preparation (If applicable)

## **5.11 Tools and Technologies to be used**

Vendor is recommended to choose the appropriate tools and technologies to be used for the development and implementation of the e-Service application. The selected vendor has to consult with a2i and **Bangladesh Small and Cottage Industries Corporation (BSCIC)** to finalize the tools, technologies, framework and platform with the approval of same authorities consent.

The main components of the software will be web based application. It should be run in Windows/Linux/OSx operating system at user end and should be compatible to all major browsers such as – Internet Explorer, Firefox, Google Chrome, Opera etc.

The System UI should be compatible with Tab & Smart Phone browsers and in case of Mobile Apps should be support both Android and IOS

Understanding the details scope of this project, vendor is requested to submit a comprehensive plan in their technical proposal following the table format mentioned below



Issues/Phases/Purpose	Used Technology/Tools	Justification for use	Alternative Tool/Technology
Project Management			
Version Control			
System Requirement Analysis			
System Design			
Development (Client end)			
Development (Server end)			
API/Web services			
Apps			
Testing			
Payment Gateway			
Integration			
Hosting & Deployment			
Documentation			
QA			
Helpdesk/Support			
Reporting			
Communication			

## 5.12 Quality Attributes and Assurance

The Quality attributes and Assurance plan will describe the standards, processes and procedures in this e-Service application development life cycle which will be used to support the consistent delivery of high-quality, professional standard e-Service application and services provided in the support of an automated environment. The quality assurance process will be concerned with establishing the authority of the QA function, quality assurance standards, procedures, policies, and monitoring, and evaluation processes to determine quality in relation to established standards. Quality assurance activities will concentrate on the prevention of problems through the continuous improvement of processes.

In order to provide high quality products and services, each support team will adhere to processes, procedures and standards. Quality Assurance (QA) is a process used to monitor and evaluate the adherence to processes, procedures, and standards to determine potential product and service quality. It will involve reviewing and auditing the products and activities to verify that they comply with the applicable procedures and standards, and will assure the appropriate





visibility for the results of the reviews and audits.

The vendor is requested to provide an extensive Quality Assurance plan with measurable attributes for each phases of this e-Services development life cycle in their technical proposal.

**5.13 Copyright Bangladesh Small and Cottage Industries Corporation (BSCIC)** shall be entitled to all proprietary rights including but not limited to patents, copyrights and trademarks, with regard to many Vendor.

All kinds of source code including code documentation and other approved documents (all versions trail, products , developed applications, documents and all kinds of deliverables which bear a direct relation to or is made in consequence of the services provided by the vendor under this scope of this TOR.

At the request of the **Bangladesh Small and Cottage Industries Corporation (BSCIC)**, the vendor shall assist in securing such property rights and transferring them in compliance with the requirement of the applicable law. After the completion of the project such rights will be handed over to the **Bangladesh Small and Cottage Industries Corporation (BSCIC)** that will be produced at the time of entire system development and implementation life cycle under the scope of this TOR will be owned by **Bangladesh Small and Cottage Industries Corporation (BSCIC)**.

The vendor should properly deliver all the entire approved source codes and other deliverables to the **Bangladesh Small and Cottage Industries Corporation (BSCIC)**. The vendor cannot claim any royalty or authority of any sort in case of replicating the source code or database or any other deliverables under this TOR for any future use that **Bangladesh Small and Cottage Industries Corporation (BSCIC)** and the Government of Bangladesh may see fit.

Any studies, documents, reports, graphics or other material prepared by the vendor for this project under this TOR shall belong to and remain the property of **Bangladesh Small and Cottage Industries Corporation (BSCIC)**.

## **6. Scope of Work**

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### **6.1 Development and Implementation Methodology**

Development methodology i.e. SDLC plays a very important role to clear the ultimate project objectives precisely, to stable the project requirements, to monitor the progress with measurable deliverables and managing the entire project efficiently. Here the vendor is requested to propose and submit a best possible suited SDLC approach for this project considering the project scopes, requirements of e-Service, objectives, organizational environmental factors and behavior, project timeline, ultimate deliverables and various resources to be used.

### **6.2 System Requirement Analysis**

Requirements finalization will be a very important milestone of vendor's proposed development methodology. It is expected that, the selected vendor will carry out detailed



requirement study and analysis on the each and every scope of e-Service that mentioned in the TOR. Under this scope of work, the selected vendor has to analyze the detail functions, processes, documents, actors, sites and infrastructure of the relevant prevailing system precisely of the concerned organization. At this phase, vendor's ultimate objective will be finalization of the e-Service requirements in details under the scope of TOR and approval of the concern organizational authority. Here vendor is requested to propose and submit a system requirement analysis plan which should cover the scope of work at this phase, relevant activities to be performed, timeline, deliverables to be produced, dependencies and resources to be used.

### **6.3 System Design**

At this phase, the detail functional scope defining and designing as per the standard of software engineering approach for the proposed e-Service system tasks are being performed. This is very vital and important phase of any SDLC. Considering the ultimate development and implementation scope, the proposed system design should be robust, scalable, user friendly and interoperable enough.

At this system-designing phase, vendor may performs following designing related task and will produce various standard System Designing Documents (SDD):

- Identifying module, components, tasks, I/O and functional features
- Specifying technical and functional requirements
- User Interface design
- Description of UI and requirements
- Preparing the use cases
- Defining Integration and interoperability scope
- Designing system architecture
- Determine process and data flow
- Database design
- API design
- Finalizing tools, technologies and frameworks to be used etc.

Here vendor is requested to cover details system designing plan in their technical proposal, which may include relevant activities, approaches, methods, documentations and deliverables.

### **6.4 Development**

At this stage, vendor must take prior acceptance or approval from the concerned authority on tools, technologies and framework that will be used for the development of the e-Service



application. Based on approved SRS and SDD, vendor will prepare a comprehensive development plan for the e-Service application which should include a schedule consisting development item wise start date, test date, review date, completion date etc. At the development stage, vendor must follow the standard code convention, code level documentations, header of each file, algorithms, interfaces, code compression and APIs should be supplied with proper description and documentations. All kinds of standard testing tasks that are required to be performed at the development phase, should be mentioned in the plan. Considering the scope mentioned in the TOR for this e-Service application, vendor is requested to include a preliminary development plan (standard approach) in their technical proposal.

## **6.5 Integration**

Considering the above mentioned Integration requirements and scopes for this e-Service application, vendor must includes a phase in their proposed development and implementation methodology approach. At this stage, the vendor will perform all necessary tasks regarding integration to make the e-Service application interoperable.

## **6.6 Testing**

The vendor must propose a testing plan for this e-Service application starting from development to deployment. This testing plan should cover all the standard suitable testing approaches for this e-Service application which may include phase wise testing activities like test scripting, test cases, testing tools, testing process, test log, result and report formats i.e. expected test deliverables based on the application development requirements. The vendor should submit testing plan which may include standard test approaches. Some are mentioned below as examples for reference

- Unit Test
- Functional Test
- Installation testing
- Compatibility testing
- Smoke and sanity testing
- Regression testing
- Stress Testing
- Acceptance testing
- Alpha testing
- Beta testing
- Functional vs non-functional testing
- Continuous testing
- Destructive testing
- Software performance testing
- Usability testing
- Accessibility testing
- Security testing



### 6.7 Hosting

Vendor should submit primary hosting requirements for this application related to hardware, servers, network, security, storage, traffic, firewall, bandwidth etc. i.e. complete hosting infrastructure that will be requires for their developed application hosting considering the implementation scope.

### 6.8 User Acceptance Test (UAT)

User Acceptance Test (UAT) is a very vital and essential phase in the e-Service development lifecycle. At this phase, all types of users must test the developed e-Service application by themselves and have to provide a details feedback/ test report . Based on the UAT report, vendor has to update the application accordingly to ensure user satisfaction by making it more user friendly. Here, it is expected that, considering the type of users and their role in the e-Service application, the vendor must propose a comprehensive UAT plan in their technical proposal which may cover the followings:

- UAT activities to be perform (planning, designing test cases, selection of testing team, Executing test cases and documenting, Bug fixing, sign-off etc.)
- Types of user wise roles and test items distribution
- resource requirement,
- activity wise time requirement
- activity wise test case , test results/ deliverables
- detail user feedback / test reports
- System update plan

### 6.9 Management and Migration of Legacy Data

Under the process of service to e-Service transformation, during e-Service activation or deployment, it may be necessary to move the legacy data of prevailing services. In this case, vendor may require to perform different relevant activities that may include data collection, softcopy conversion, data filter, data cleansing, data verification, data process, data entry, data migration and overall data management. Here, it is expected that, the vendor will propose their detail data management and data migration plan for this e-Service application considering the estimation of legacy data mentioned below which will be required to migrate into the developed application.

SL	About	Description	No of pages	Status	Amount of data	Dependency
01	Paper based manual application	All current application information	02	Current	40,000+	BSCIC
02	Paper based manual documents	All supporting documents of application	0 – 20	Current	40,000+	BSCIC

The plan may cover amount of data to be migrated, activities to be performed, amount of resources to be used, required time for different data migration phases for different activities (data



collection, hardcopy to softcopy conversion, data entry, data transformation from soft copy, data filtration, data cleaning, data verification ) etc.

## **6.10 Deployment and Implementation**

This is the phase of SDLC , when the consent is being given to “GO LIVE” of the developed system after completed all kinds of development integration , testing and hosting. This is very crucial and sensitive stage for a Government application because at this stage the system becomes public and expose to access towards all levels of users. The Pilot or full scale implementation period starts formally in this stage only. Vendor is requested to propose their deployment and implementation plan covering the major activities to be performed, the deliverables to be provided etc.

## **6.11 Training and Knowledge Transfer**

- The vendor must propose a detail training plan for the users of the e-service application.
- The vendor should include necessary training methodology , documentation and training materials support in their training plan
- The training materials may include user manual ,administration manual, quick start tutorial, online help, frequently asked questions
- The training plan must describe the sequencing, time, duration and resources involved in implementation of each of the consultant’s proposed training activities.
- The training plan should contain full course descriptions for all courses that to be carried out for respective users.
- The vendor should develop multimedia training materials for all users. These materials shall be available for viewing and reviewing for all users through a web portal.
- The training instructions should support both English and Bengali language.
- The training activities should cover the training feedback, evaluation and report also.
- The vendor also needs to propose their smooth, efficient and effective knowledge transfer idea and plan here in this technical proposal with the training plan.
- Training arrangement and materials, refreshment cost to be borne by the selected vendor.

## **6.12 Maintenance and Support Service**

The selected vendor has to provide a period of 02(Two) Years maintenance and support service. After the development and deployment phase when the implementation period starts the vendor has to provide maintenance and support service for the 02 Years. Here it is expected that, the vendor must provide a detail maintenance and support service plan in the technical proposal, which may include the followings:

- Support service types and mode of services
- Service desk functionalities
- Configuration management
- Change management
- Service layers for support



- Tools will be used for Support service management
- Communication management and modality
- Release management
- Incident management
- Problem management
- SLA (Service Level Agreement)
- Maintenance and support service related reporting
- Support service types
- Service Log Management

Apart from the above mentioned issues, if vendor thinks any other issue to be included in their plan, it would be considered as added value addition.

### **6.13 Duration of the Project and Work Station**

The selected vendor will need to work for the above-mentioned scope as per approved project management schedule. The selected vendor must complete Service application development and deployment i.e. development life cycle as per their proposed development methodology within [Number of Days/Months/Years] excluding the maintenance and support service period. .

Now here in their technical proposal vendor is requested to propose detailed timeframe plan which may include:

- Total duration of the e-Service application development i.e. e-Service development
- Total duration of the Maintenance and support service at implementation phase
- Proposed SDLC Phase wise and deliverable wise time distribution and duration
- The schedule may cover Activity, Deliverables, Time in Days, Dependencies etc.
- Can be present as table or Gantt chart

### **6.14 Work Distribution and Team Composition**

The vendor is expected to provide work distribution and team composition plan as deemed suited based on this project requirements and milestones and as per their proposed development and implementation methodology approach. The interested applicant (Vendor) should provide a team composition plan in their proposal describing the position, roles, tasks to be assigned, expected man-days of involvement , expected deliverables and required skill and expertise.

However, for proper execution of the project i.e. e-Service application the vendor may include at least the following personnel as minimum requirement



Sl.NO	Type of Manpower under team	Number
1	Project Manager	1 (one)
2	Software Architect	1 (one)
3	System Analyst	2(two)
4	Business Analyst	2(two)
5	System Administrator	1 (one)
6	Database Designer	1 (one)
7	UI designer/UX expert	2(two)
8	Payment Gateway expert	1 (one)
9	Interoperability Expert	1 (one)
10	Support Engineer	2(two)
11	Quality Assurance Expert	1(one)
12	Training Expert/trainer	2(two)
13	Programmer	3(Three)
14	Developer	3(Three)
15	Mobile App Developer	3(Three)
16	Technical Documentation Writer	1(one)
17	Network Engineer	1(one)
18	Implementation Engineer	2(two)

### **6.15 Expected Deliverables**

Considering the scope of service and scope of work of this project and based on the proposed project development & implementation methodology, the vendor has to submit here a complete list of all types of deliverables will be produced throughout the entire project timeline whether those are materials, services, applications, source codes, documents, plans, reports etc. in a table format mentioning the stages, activities and timelines.

Some examples of the deliverables are mentioned here under for your reference.





- Project inception and management report
- System requirement specification (SRS)
- System design document (SDD)
- Complete source code
- Detail source code documentation
- Test plan with test scripts and testing reports
- Technical documentation (system architecture, module integration points, workflow engine, data dictionary, user manual etc.)
- Training plan and reports
- Training materials and user manuals
- Integration plan and reports
- Audit log
- Mobile Application
- Web application
- UAT Report
- Maintenance , agreement & SLA
  
- Maintenance and support log
- Hosting requirement specification , plan and report
- Implementation plan and report
- HR activity plan and report
- Progress and review reports

## 7. Conclusion

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The vendor need to be ensured that the proposed system more secure and high-level authentication. They are also ensured that the proposed system more user friendly and easy accessible. Deliver the system as per our requirements. If will be needed any additional changes of function and feature can be added with module without any argument from the vendor.

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(N:B: for clarification/query please contact With. Mr. Hafizur Rahman, Planning officer, BSCIC, Cell # 01722025849)