

**People's Republic of Bangladesh**

**Preparatory Survey on BOP  
business on e-learning business for  
Secondary Education and Vocational  
Education  
in Bangladesh**

**Summary Report**

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**Japan International Cooperation Agency (JICA)**

**NetLearning, Inc.  
PADECO Co., Ltd.**



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## **1. Background and Objectives of the Survey**

NetLearning, Inc. offers educational services over the Internet, popularly known as e-learning. Established in Japan in January of 1998, NetLearning now offers 5,970 courses across a wide variety of educational subjects applicable for every level of business enterprise. The company offers comprehensive programs that can be tailored to meet the varying needs of a diverse range of companies, thereby enabling them to consistently provide top-class, strategically designed corporate learning programs. Its service offerings span a broad range of functions, including but not limited to: introductory consultations on new systems, the provision of Learning Management Systems (LMS), as well as courseware design, production, delivery and application. Over 4,586 companies and schools have incorporated NetLearning's services into their employee/customer and teacher/student educational programs.

Bangladesh is the world's eighth most populous country with a population of about 160 million people. With a median age of around 25, and 31 percent of its people under the age of 15, the population of Bangladesh is relatively young. The country has made rapid progress in its economic development since the 1990s, averaging a growth rate of about 5-6 percent per year; however, more than 60 percent of the Bangladeshi people still belong to the BOP category of those who live on less than \$6,000 per year. Bangladesh's HDI (Human Development Index) value in 2014 was 0.558, ranking 142<sup>nd</sup> out of 187 countries and territories. Bangladesh's deficiency by this measure indicates that human resource development remains one of the most important areas of focus for the country's future development.

Bangladesh's development strategy emphasizes two critical areas of structural change and economic transformation. The first aspect of this strategy is to facilitate the economic transformation of Bangladesh from an agrarian economy towards a manufacturing and modern service economy, which will lead the country's transition to a medium income country. The second aspect of this strategy is to bridge the rural-urban divide, to diversify and strengthen the economic activity base of the rural economy and to eradicate poverty. Suffice to say, the education sector is considered to be one of the most important sectors towards achieving these developmental goals. The Japanese Government has supported Bangladesh's development strategy through ODA projects. In the education sector, JICA has been providing assistance to primary education programs through its technical cooperation scheme. The measured improvements in primary education in the country have been remarkable; with 97 percent of children now attending primary schools.

In the Secondary and Higher Education sector, schools and educational institutions in the rural areas face many challenges; there is an insufficient number of qualified teachers working in rural areas while the quality of education needs to be further improved. In addition, students in rural areas have limited access to college preparation courses and university-level education. To address these issues, Bangladesh has launched an innovative program called "Digital Bangladesh", which promotes the use of ICT in schools. To date, more than 20,000 schools have been provided with computer rooms. NetLearning will be able to supplement this initiative with its e-learning technology, while providing strategic focus on assisting students in the BOP group. It plans to offer e-learning services at affordable prices and aims to overcome obstacles commonly faced by rural students. Through this survey, NetLearning will verify the effectiveness and sustainability of the e-learning business in Bangladesh.

## 2. Summary of the Survey

The survey was conducted in the following areas:

- a. The central area of Dhaka City
- b. Dhaka suburb
- c. Chundpur Town
- d. Outskirts of Chundpur
- e. Villages of the Chundpur district

The objective of the survey was to explore the feasibility of implementing the e-learning business at schools, private educational institutions and students' residences. First, the Internet infrastructure of each area was assessed. Second, the details of public examinations conducted in the education system were analyzed.

In order to conduct the survey, a team visited Bangladesh as per the following schedule:

**Table 1: Details of the Survey Team Visit to Bangladesh**

Month of the Visits	Purpose of the Visits	Visited Places
June 2015	Study of Status of Education	JICA, JETRO, Japanese firms
July 2015	Business Model Development	Schools, Universities
September 2015	Secondary/Higher Education	Education Ministry, IT firms
March 2016	Business Model Development	Schools in rural area, Colleges
April 2016	Pilot Project Implementation	Prep School, High School

Over the length of the visit, the research team evaluated the following public examinations:

- a. Secondary School Certificate Examination
- b. High School Certificate Examination
- c. Dhaka University and other Universities Entrance Examinations
- d. Medical School Entrance Examination
- e. Bangladesh Civil Service Examination
- f. Bangladesh Bank Officer's Examination
- g. Information Technology Engineer Examination

It was found that the above examinations are conducted in the form of Multiple Choice Question (MCQ), which are easily practiced on e-learning courses. The statistical details of these examinations were summarized as follows:

**Table 2: Details of the Examinations**

Type of Exam	No. of Applicants	No. of Successful Applicants	Ratio of Successful Applicants (%)	Month of Examination
Dhaka Univ. Entrance Exam	200,000	6,200	3.1	October
Jagannath Univ. Entrance Exam	250,000	2,500	1.0	October
Medical College Examination	80,000	3,500	4.4	October
Bank Officer's Examination	40,000	1,200	3.0	Throughout the year
High School Certificates Exam	1,140,000	890,000	78.0	April to June
Civil Service Examination	250,000	2,000	0.8	Sep. to Dec.

NetLearning developed an application which allows students to take practice tests for university examinations on their smart phones. To test this application, a pilot project was conducted from June 2016 to November 2016 for a period of five months. The application consists of practice tests of the MCQs for the Dhaka University Entrance Examination. MCQs were prepared by teachers of college preparatory schools in Dhaka. Each practice test has a total of 100 MCQs of 4 subjects which students must complete within one hour as is the case with the actual Dhaka University entrance examination. After completing the practice tests, students can get their scores instantly. In addition, they can see their performance on each question with detailed answer explanations.

About 400 high school students participated in this e-learning course over the course of the pilot project. ID numbers were issued to all participants, who were able to register online and take practice tests at any time on their smart phones. For students in rural areas who did not own a smart phone, they were made available at the e-Education Center in Chundpur. 79 students in rural areas and 91 students in Dhaka completed a baseline survey at the onset of the project and 75 students in rural areas and 74 students in Dhaka completed an end line survey after completing practice tests. During the pilot project, students were encouraged to use the application as many times as possible and received an orientation as to how to use the application on the smart phone.

Salient points of the results of pilot project are summarized as follows:

1. Students who took the practice tests more than five times improved their scores by more than 20 points.
2. The average score of the base line survey was 38 points and that of the end line survey was 57 points.
3. Students who took the practice tests more than nine times earned more than 60 points.
4. There was a strong positive correlation between the test scores of the end line survey and the number of practice tests the students took.

### **3. Evaluation for Commercialization**

NetLearning has decided to enter the e-learning industry in Bangladesh based on the results of this survey. The company identified a prospective business partner during the study period and has already initiated negotiations to establish a joint venture in Bangladesh.

The findings of the survey can be summarized as follows:

1. The macroeconomic environment in Bangladesh was deemed very promising as demand for e-learning in various sectors in the country is expected to increase in the future.
2. There is currently no governmental regulation pertaining to the e-learning business in Bangladesh.
3. Qualified business managers and technical personnel are readily available who can contribute to the development of the e-learning industry.
4. The results of the pilot project confirmed that e-learning was an effective tool to improve the academic scores of students participating in the Dhaka University Entrance Examination.
5. Many students have demonstrated a willingness to purchase practice tests of MCQs developed by NetLearning in order to prepare for national examinations.

6. NetLearning will be able to provide customers with high quality practice tests for national examinations. In addition, it plans to develop a counseling system where students will be able to receive advice from dedicated counselors.
7. An e-learning business in Bangladesh has potential to develop into a profitable business, given the rapidly growing market in the country.
8. Students living in rural areas have relatively limited opportunities to prepare for national examinations, given that high quality preparatory education is usually available only to those living in cities. E-learning will be instrumental in helping students in the BOP category adequately prepare themselves for the national examinations.

Two companies in Bangladesh currently offer e-learning courses designed to help high school students prepare for the Dhaka University Entrance Examination. Their applications are designed mainly for PC users; however, since PCs are not ubiquitous, it would pose a significant barrier to access for most high school students. Given the limited availability of PCs in Bangladesh, NetLearning decided to focus on developing e-learning applications targeted specifically for smart phone users. Since the number of smart phone users in the country is increasing rapidly, e-learning courses compatible with smart phones can reach a greater share of the market and prove to be a useful tool for students as they prepare for national examinations.

#### 4. Business Model

The following chart illustrates the business model:

a whole picture of the business model

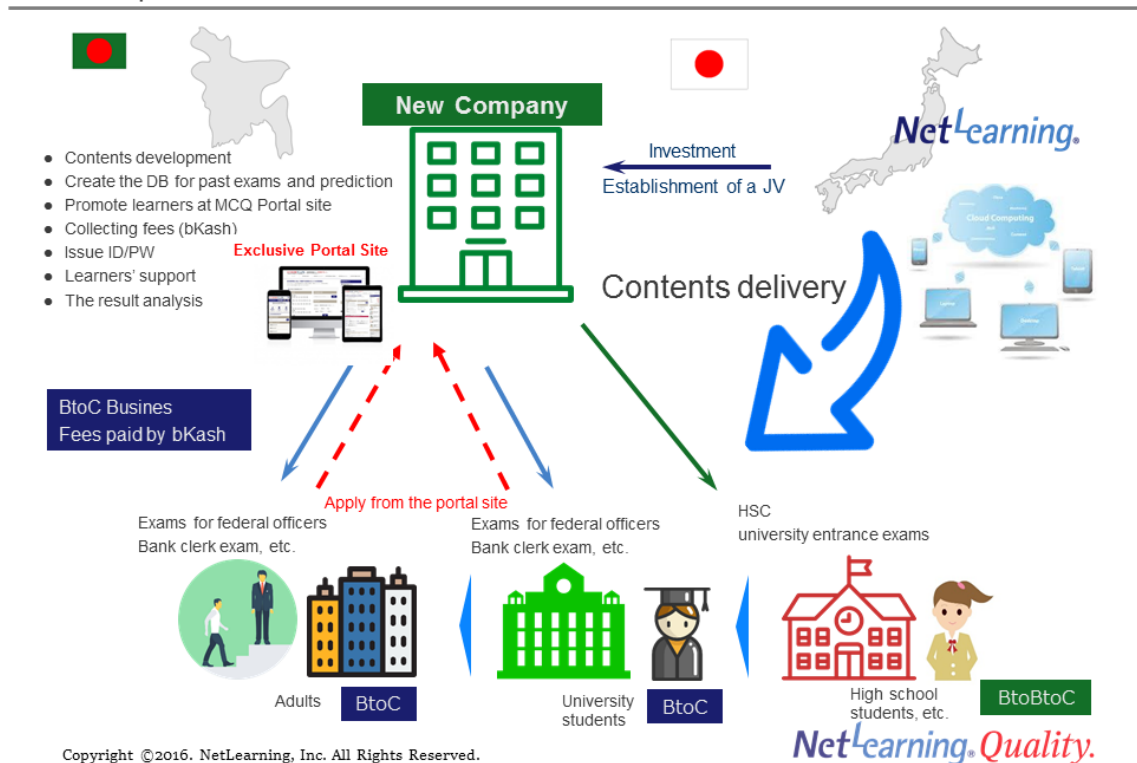


Chart 1: The Business Model



NetLearning will establish a joint venture with a local company, BacBon Ltd. in Dhaka. The joint venture will be dedicated to providing e-learning services to high school and college students. During the first year of business, NetLearning plans to offer on-line practice test courses for university entrance examinations, i.e. Dhaka University, Jagnath University, and Medical Colleges. In addition, a practice test course for High School Certificate Examination is being planned for subsequent launch. The company hopes to market these products to schools and preparatory schools mainly in Dhaka. Additionally, to support students in rural areas, these courses will initially be made available to them free of charge.

Practice test courses for Civil Service and Bank Officer's Examinations will be sold in the second year, directly to customers on the Internet. In this case, the fees will be collected through the bKash system.

## **5. Remaining Issues to be Resolved for Commercialization**

Through the field survey and the implementation of the pilot project, the following issues were identified which must be resolved in order to ensure smooth operation of the business:

1. Establishment of a new company  
Due to the uncertainty of the security situation in Bangladesh, delays should be expected in the setting up of a joint venture company. Once the security situation is settled, a joint venture company will be established to launch the business.
2. Ensure the quality of the MCQs  
Typographical errors were made by local staff in the preparation of the MCQs. It is necessary then, to hire reliable PC operators. Grammatical errors were also found in the MCQs. Training programs in editing and proof reading must be developed for staff. Furthermore, to guarantee high standards in the recruitment of teachers capable of writing effective MCQs, it may be necessary to conduct written examinations as well.
3. Make MCQs more user friendly  
Over the course of the study, it was noted that some students were not familiar with using smart phones. In addition, some found it difficult to understand the instructions on the screen, which impeded their ability to answer the MCQs. It is necessary to make MCQs more user friendly by obtaining the feedbacks from students.
4. Secure repeaters  
Outreach is necessary for to continually engage participating students, integrating methods such as email reminders to take the MCQs repeatedly.
5. Fee Collection Method  
Mobile payment methods, such as bKash, should be subject to further testing.
6. Marketing of the product  
It will be necessary to find ways to encourage students to take MCQs repeatedly. For example, students may require explanations on how to effectively use the program and its potential benefits. In addition, a briefing for parents may useful to market the benefits of e-learning.

## **6. Schedule of Implementation**

The schedule of business implementation is as follows:

April 2017: The establishment of a joint venture in Bangladesh

July 2017: Start of sales of MCQs for University Entrance Examinations

August 2017: Start of sales of MCQs for High School Certificate Examination

June 2018: Start of sales of MCQs for Civil Service and Bank Officers' Examination

## **7. Area for Potential Cooperation with JICA**

NetLearning has experience conducting online training programs in the fields of internet security and compliance at private firms, central government agencies and municipalities in Japan. In Bangladesh, the level of internet security at government agencies has to be strengthened urgently in light of the recent hacking at the Bangladesh Central Bank. However, it is by no means easy to organize the training for thousands of government officials in a short time.

NetLearning has already begun offering its services abroad and has several foreign clients, but has not yet sold its programs to foreign governments. Therefore, the company is willing to help the Bangladesh Government in conducting online training in the field of the internet security and compliance. JICA's program of "Pilot Survey for Disseminating foreign SME's Technology" can be utilized for NetLearning to implement an e-learning program for government officials in Bangladesh.