Independent Evaluation Group (IEG)
BD: Leveraging ICT Growth, Employ & Gov (P122201)

Implementation Completion Report (ICR) Review

Report Number: ICRR0022011

1. Project Data

Project ID P122201	**Project Name** BD: Leveraging ICT Growth, Employ & Gov
Country Bangladesh	**Practice Area(Lead)** Digital Development

L/C/TF Number(s) IDA-50250,IDA-59110	**Closing Date (Original)** 31-Dec-2017	**Total Project Cost (USD)** 89,446,884.56
Bank Approval Date 20-Sep-2012	**Closing Date (Actual)** 30-Jun-2019	
	IBRD/IDA (USD)	**Grants (USD)**
Original Commitment	70,000,000.00	0.00
Revised Commitment	102,518,274.12	0.00
Actual	91,846,890.81	0.00

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2. Project Objectives and Components

a. Objectives

According to the Project Appraisal Document (PAD) (p. 6) and the Financing Agreement of November 26, 2012 (p. 6) the objectives of the project were to "i) catalyze the growth of Bangladesh's Information Technology (IT)/IT-Enabled Services (ITES) industry for employment creation and export diversification; and (ii) establish basic e-government foundations to support public sector modernization."

b. Were the project objectives/key associated outcome targets revised during implementation?
Yes

Did the Board approve the revised objectives/key associated outcome targets?
Yes

Date of Board Approval
26-Sep-2016

c. Will a split evaluation be undertaken?
No

d. Components
The project included three components (appraisal amounts excludes contingency costs):

Component 1: IT/ITES Industry Development (appraisal estimate US$35 million, actual US$44.5 million): This component aimed to increase the competitiveness of Bangladesh's IT/ITES industry by increasing the quantity and quality of skills, awareness and perception of the country. This component was to finance activities such as: top-up IT Training of science graduates for IT services segment, foundational skills for ITES segment, middle management training, institutional capacity building for the Bangladesh Computer Council (BCC) and local industry, and industry promotion.

During the first project restructuring, activities related to IT/ITES company certification were cancelled since it was taken up by the then ongoing World Bank Private Sector Development project (P120843). During the second restructuring, additional Financing of US$12 million was directed towards a financing gap for IT/ITES activities (due to exchange rate loss); to expand the Chief Executive Officer (CEO) outreach activity for investment promotion and international business development; and to support a new training and employment program in the online free-lancing sub-industry.

Component 2: E-Government (appraisal estimate US$29 million, actual US$48.5 million): This component was to provide critical e-Government technological foundations for the country's governance agenda for the years ahead and build the human capacity to leverage technology for governance reforms. This component included financing to: (i) expand shared Infrastructure for IT hosting and remote conferencing; (ii) establish shared IT governance policies, standards and structures; and (iii) build capacity on e-government skills for IT related public sector staff.

During the first project restructuring, activities related to setting up telepresence facility were cancelled since they were covered by the Info-Sarker project (jointly financed by the government of Bangladesh and the government of China). During the second restructuring/Additional Financing, US$21.5 million was directed towards component 2 to scale up e-government activities to meet immediate needs and demand by other public agencies for initial e-government foundations such as the expansion of the national data center (NDC) and cyber security activities, and mainstreaming of the national enterprise architecture.

Component 3: Project Management Support (appraisal estimate US$4 million, actual US$10.5 million: This component was to finance the creation and functioning of the Project Coordination Unit (PCU) to conduct project implementation activities, including project management, meetings of the Project Steering Committee and Project Implementation Committee, coordination, procurement, financial management,

conferences and workshops, monitoring and evaluation, social impact assessments, and IT/IES industry surveys.

During the second restructuring/Additional Financing, US$6.5 million (including US$1 million counterpart financing) was allocated to ensure the continuous functioning of the PCU until project closing.

e. **Comments on Project Cost, Financing, Borrower Contribution, and Dates**

Project Cost: At appraisal, the project was estimated to cost US$70.0 million. The project received Additional Financing in the amount of US$39.0 million resulting in an estimated project cost of US$109.0 million. The total cost of the project at completion was US$103.5 million.

Financing: The project was originally financed by a US$70.0 million credit of which US$54.82 was disbursed; and an Additional Financing of US$39.0 million credit of which US$37.01 million disbursed. The total disbursement was US$91.83 million. There was a cancellation of US$6.16 million during the first restructuring. The project team explained that exact US$ amounts for components are "estimates" due to exchange rates fluctuations between SDR and US$.

Borrower Contribution: There was no planned or actual Borrower contribution.

Dates and Restructurings: The project was restructured three times:

- On May 22, 2014 the project was restructured to cancel two activities that were no longer needed to be financed by the project: (i) activities related to IT/ITES company certification (component 1) since it was included in the ongoing Bank Private Sector Development Project (P120843); and (ii) activities related to setting up telepresence facilities (component 2) since they were implemented by a project financed by the government of Bangladesh and the government of China. The dropping of these activities resulted in the cancellation of US$4.5 million. Also, the amount of US$2.08 million was cancelled as the contingency funding was no longer deemed necessary.

- On September 29, 2016 the project received Additional Financing in the amount of US$39 million for the following activities: (i) under Component 1: US$12 million was required to address the financing gap in the IT/ITES activities due to the SDR/US dollar exchange rate loss (US$8.4 million) and the cancellation of funds during the first restructuring; (ii) under component 2: US$21.5 was required to meet immediate needs and critical demand by other public agencies for initial e-government foundations; and (iii) US$6.5 million was required to ensure the functioning of the PCU until project closing; Also, during the restructuring two new indicators were added ("number of women who were trained and had gained marketable skills" and "trainees satisfied with the training provided"). Finally, the closing date was extended by 18 months to allow for the implementation of the scaled-up e-government activities.

- On June 13, 2018 the project was restructured to: i) replace the current PDO-level indicator (KPI 3) on the World Economic Forum's Network Readiness Index (NRI), with the UN E-Government Development Index (EGDI); ii) reallocate SDR 4,814,768.98 from Category 1 to Category 2 and 3 under the original credit, and SDR 650,000.00 from Category 1 to Category 2 under the Additional Financing credit; and iii) reduce the target for the intermediate result indicator on "Number of Manpower Trained under the Project" from 40,000 persons to 30,000 persons, which was the original target before the last restructuring and Additional Financing. According to the Bank team

(February 28, 2020) the revised target was decreased to its original target since the PCU had to cancel this activity due to significant procurement risks after two procurement attempts were unsuccessful.

Split Rating: The project does not require a split rating since there was no material change in the PDOs or the indicators. The PDO indicator 4 was changed from the "World Economic Forum's Networked Readiness Index (NRI)" to the 'United Nations E-Government Development Index (EGDI)' during the second restructuring. The outcome target for achieving PDO indicator 3 was adjusted to reflect the 18-month extension of the closing date. As discussed above, the Additional Financing was mainly used to compensate for SDR/US dollar exchange rate loss, the cancellation of funds during the first restructuring, the functioning of the PCU until project closure, and to meet immediate needs and critical demand by other public agencies for initial e-government foundations.

3. Relevance of Objectives

Rationale

Country and Sector Context: According to the ICR (p. 6) Bangladesh had a sound track-record of growth and development when the project was appraised in 2012. Between 2002 and 2012 the economy grew by almost six percent per year and was resilient to the effects of the global financial crisis in 2007-2008. However, in 2010, a third of the population was still living in poverty.

While Bangladesh's ICT industry had developed considerably between 2000 and 2012 and telecommunications had generated total industry investments in the amount of approximately US$4.5 billion between 2002 and 2012, there was significant room for improvement. According to the ICR (p. 6) only three percent of individuals used the internet in 2010. The IT industry produced only an output of around US$300 million per year representing a limited proportion of the country's total GDP (IT/ITES contributed 39 percent to that value). Also, the industry's readiness lagged behind global averages in particular in regard to general population's ICT skills, perception of the country's suitability for ICT businesses, supporting infrastructure, and technology foundations for the public and private sector.

Alignment with Government Development Strategy: According to the ICR (p. 13), the objectives of the project supported the government's seventh Five-Year-Plan (FY2016-2020), which promotes the development of ICT infrastructure, capabilities, and services to build a resilient digital Bangladesh. It aims to expand the IT/ITES industry rapidly by strengthening the country's ICT enabling environment and the development of local ICT skills. Furthermore, the objectives of the project were in line with the country's "Vision 2021" (Perspective Plan of Bangladesh 2010-2021), which set ambitious goals for governance, economic growth, and employment. The plan emphasized the importance of leveraging information and communication technologies (ICT) and e-governance to achieve these ambitious goals and to improve coordination between agencies, increase efficiency within and across all agencies, and develop a knowledge sharing economy. The ICR (p. 14) stated that the Prime Minister announced the goal, as part of the "Vision 2021" plan, of creating two million IT professionals by 2021.

Development Problem: At appraisal, there were no targeted programs for the IT industry in Bangladesh and none focused on building the necessary e-Government foundations. Hence, from an IT industry sub-sector perspective, Bangladesh had not been able to tap on the tremendous potential of the global IT and IT enabled services (IT/ITES) industry. Once completed, the project was expected to provide the Government of Bangladesh with the critical technology foundations for governance reforms, increase the capacity of local IT companies to support the e-Government, and thus have a significant impact on development.

Alignment with World Bank Assistance Strategy: The objectives of the project were in line with the focus area 1 "growth and competitiveness" and the objective "enhanced business environment and trade facilitation" (by providing the e-government foundations to support digital public sector reforms such as e-procurement and automated administration of value added tax (VAT)) of the Bank's current Country Partnership Framework (FY16-20). According to the Bank team, the objective of the project also supported the Bank's Jobs and Economic Transformation agenda, especially, the first two objectives "Supporting job creation through economic transformation" and "ensuring inclusion of youth and women".

Rating
High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1
Objective
Catalyze the growth of Bangladesh's Information Technology (IT)/IT-Enabled Services (ITES) industry for employment creation and export diversification.

Rationale
The project's **theory of change** envisioned that project inputs such as training programs and course materials, conducting industry statistics study, and conducting global engagements through industry meetings, conferences and seminars, would result in catalyzing the growth of Bangladesh's IT/ITES industry. However, the underlying assumptions and attribution for the links between the project's outputs, and employment generation and export diversification could have been better clarified.

Outputs

- 33,564 people were trained in IT/ITES, surpassing the target of 30,000. Of this number, 10,450 women were trained with marketable ICT skills, surpassing the target of 9,000 women. Trainings included the Fast Track Future Leadership (FTFL) program, which included training in emerging technologies such as artificial intelligence. A database of trainees was developed and shared with prospective employers through a portal.

- Training was also provided to over 600 middle management professionals in different IT/ITES organizations.

- Seminars, workshops, and business-to-business matchmaking conferences were organized to help link Bangladeshi IT/ITES industry professionals with international organizations to gain market access of their products and services. Seven Bangladeshi firms were trained in global platforms such as Accelerance and Wonderlabs and participated in Japan IT week in 2016, 2017, and 2018 through a CEO outreach program. According to the Bank team, these platforms were a trusted channel for marketing the Bangladeshi companies to global IT/ITES clients.

- 96% of trainees were satisfied with the training provided by the Bangladesh Computer Council (BCC), surpassing the target of 50%.

- Six job fairs or "techfests" and over 70 ICT career camps were organized across Bangladesh to promote employment in the ICT sector.

- Five international firms provided statistical data for their ranking indices, achieving the target of five firms. According to the project team, these indices are for international rankings on country attractiveness and/or competitiveness in the global IT/ITES market. One of the project's intermediate result was for Bangladesh to provide statistical data to these international firms, for them to include Bangladesh and/or improve the country's ranking in their indices; so as to attract more companies to use Bangladesh for their IT/ITES outsourcing needs.

- An industry study was carried out by the Center for Project Management and Information Systems at the University of Dhaka.

Outcomes

- The ICR reports (para. 28) that local IT/ITES companies benefited from improved business opportunities and IT/ITES industry revenue increased to US$280 million, surpassing the target of US$200 million.

- IT/ITES industry employment increased from 12,000 jobs in 2013 to 47,000 jobs in 2019, surpassing the target of 42,000 jobs. The ICR reports (para. 31) that over 90 percent of trainees were hired after completion of the training.

- However, the attribution from the project outputs to this industry-wide revenue and employment is limited. Data from project documents indicates that increase in IT/ITES revenue and employment was already on a strong rising trajectory even as the project's training activities were ramping up.

- The majority of the respondents (a roundtable with 35 trainees across various programs, interviews with CXOs and middle managers and survey of over 20,000 trainees conducted by the ICR mission) cited the catalytic impact of the trainings, that allowed them to earn higher incomes than expected, provided new career paths, and enabled some to become entrepreneurs and freelancers.

- On export diversification, the ICR notes (para. 28) that while exports rose, there is no data on diversification, and it may be too early to evaluate the impacts of project activities on this count.

Although the project had a positive impact on employment generation, there is no evidence that the project resulted in export diversification. The rating for this objective is modest.

Rating
Modest

OBJECTIVE 2
Objective
Establish basic e-government foundations to support public sector modernization

Rationale
The project's theory of change envisioned that outputs such as developing a national data center, establishing a national enterprise architecture as well as setting up a computer incident response team would result in basic e-government foundations being established. The ICR could have laid out the assumptions and linkages in the theory of change more clearly.

Outputs

- The National Data Center (NDC) was expanded under the Additional Financing to meet the high demand from public agencies (ICR p.13). It hosts websites, e-mails, and applications. According to the ICR (p.19) the NDC improved the efficiency and flexibility of the digital applications and services of the government by reducing operating costs, increasing reliability and security.

- A Computer Incidence Response Team (CIRT) was established, is operational, and collaborates with other CIRTs around the world. A cyber training center, a cyber sensor network, a digital forensic lab, and a cyber security risk assessment framework and tool were also developed and deployed under the project.

- The Bangladesh National Digital Architecture (BNDA) and an e-Government Interoperability Framework (GIF) were established to provide a framework, principles, standards, guidelines, and tools for e-government infrastructure and e-services. The BNDA coordinates investments across government agencies and helps avoid duplication and waste.

- The National Enterprise Architecture (NEA) was implemented and services included e-recruitment for government officials, e-pensions for primary school teachers, e-procurement for grains, and Geo-dash (a geospatial data repository system). The NEA received international awards from the World Summit on Information Society Forum.

- The Bangladesh Computer Center (BCC) provided six e-government skill courses, surpassing the target of five courses.

- According to the Bank team (June 15, 2020) the project only financed the feasibility study of the National Disaster Recovery Center (NDRC) in Jessore (Southwestern Bangladesh). The NDRC was built by other financial sources and is operational.

- The project trained 48% of 13,000 public sector officials working for the Government of Bangladesh. These public sector officials had undertaken at least one e-government skills course provided by BCC, surpassing the original target of 25% and the revised target of 40%. The officials were provided training in e-governance transformation (analytics, digitalization, automation, and process automation), enterprise architecture, cyber security, and IT project management.

Outcomes

- Bangladesh's ranking in the UN's global e-government development index (EGDI) improved from 150th position in 2013 to 115th position in 2018, surpassing the target of being ranked 145th. According to the Bank team (June 15, 2020) the progression of improved ranking is as follows: the ranking improved marginally from 150 to 148 during the period 2012 to 2014 (the project become effective in 2013); the ranking improved significantly to 124 when the major activities were being implemented (during 2014 to 2016). The UN's 2016 report stated that "Bangladesh has made the largest gains with a global ranking of 124th in the 2016 Survey, partly due to the fact that the role of e-government is recognized at the highest level of its administration, with the Prime Minister of Bangladesh highlighting its "state of the art" digital technology." The Bank team also states that while the specific technology is not indicated in the report, but "it can be assumed that the first National Data Center (NDC), National Cybersecurity Center (NCC), and Bangladesh National Digital Architecture (BDNA) financed by the LICTs project may be included in this. These major deliverables from the LICT Project's e-Government component are considered "state of the art" digital technology in Bangladesh's context as the NDC was the first data center in the country to be certified "Tier 3" for reliability and availability by the Uptime Institute. The ranking continued to improve and was 115 in 2018 as major activities were completed. Overall, considering the factors that appear to have been taken into account in the EGDI ranking, and the sequence of project activities, the project can be considered to have significantly contributed to the country's improved EGDI ranking.

- At project closing, about 75% of the public sector officials trained in project management were managing large ICT initiatives around the country (ICR para. 35). The Bank team stated (June 15, 2020) that this attribution requires further examination to understand the causal link between those government officials who received project management training and their management of "large ICT initiatives".

- At project closing, 66% of ministries were using two or more e-government technology foundations, which were established under the project, surpassing the target of 50% of ministries.

- About 20% was saved in government IT spending, surpassing the target of 15% savings. According to the Bank team (June 15, 2020) the savings resulted from operational and cyber security savings due to the establishment of e-government technology foundations. The savings can be illustrated by following examples:
   - By project closure, the National Data Center was hosting over 2,600 websites and was being used by over 200 government departments. Without the National Data Center, these agencies would have to build, operate, and maintain their own data centers or server rooms at additional cost;

- o With the National Cybersecurity Center providing national level monitoring of cybersecurity attacks and alerts for all government agencies, these agencies do not have to set-up their own cyber-attacks monitoring systems, thus leading to savings. Before the National Cybersecurity Center was set up, the Bangladesh Bank lost US$81 million (February 2016) due to a cyber heist;
- o The Bangladesh National Digital Architecture provides a standardized set of "standards and guidelines" that agencies should use to build their systems and services; so that they may share and reuse system components and programs, in addition to sharing and reusing public data within or with other government agencies.

Rating
Substantial

OVERALL EFFICACY
Rationale
The achievement of the first objective was modest since even though the project had a positive impact on employment generation there is no evidence that the project resulted in export diversification. The achievement of the second objective was substantial because the project assisted in establishing basic e-government foundations to support public sector modernization. It expanded and scaled-up the activities of the National Data Center, the Cybersecurity center, and established the National Enterprise Architecture and an e-Government Interoperability Framework (e-GIF). The project helped in building the IT capacity of project managers and public sector officials. Overall, efficacy is rated substantial.

Overall Efficacy Rating

Substantial

5. Efficiency

Economic Analysis

The PAD (p.14) conducted an Economic Analysis for component 1 and 2 using a cost-benefit analysis (CBA).

For Component 1 (IT/ITES industry development) the PAD (p. 14) assumed an increase of 30,000 direct and 60,000 indirect employees by the end of the project due to encompassing activities to support industry development. Based on an increase in national income due to the increased IT/ITES employment income, the baseline Return on Investments (ROI) was estimated at 59%.

At project completion, the estimated employment growth was derived from total IT/ITES employment data calculated by BCC as part of the project's Results Framework. The total value-added to the local economy was

calculated based on a percentage of the total increase in IT/ITES industry revenue, as total value-added indicated the "economic profit" that the project's IT/ITES component was to bring to Bangladesh. Using a discount rate of 10.8%, the ICR calculated a Net Present Value (NPV) of US$36.88 million and a ROI at 83%.

While the ROI at project completion exceeded the baseline, the issue on the attribution of the project to IT/ITES industry revenue remained as discussed in the efficacy section. Given the partial evidence, economic efficiency of Component 1 is rated substantial.

For component 2, the indicator that the PAD provided was the proportion of investment cost versus national budget (which was 0.03%). At project completion, this figure was recalculated at 1.9% with an ROI of 311%.However, the denominator was changed from national budget to ICT budget.To that extent the two figures are not comparable.

Operational Efficiency: The project's original closing date (December 31, 2017) was extended by 18 months (to June 30, 2019) when the project received Additional Financing. The initial implementation of the project experienced some delays due to the challenge of procuring complex and large ICT packages. However, these issues were resolved, and no further delays took place. Operational efficiency is rated substantial.

Based on the above assessments, overall, project efficiency is rated *substantial*.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	**Point value (%)**	***Coverage/Scope (%)**
Appraisal		0	0 ☐ Not Applicable
ICR Estimate		0	0 ☐ Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Relevance of the objective was rated high as the project was fully aligned with the Bank's strategy and country's priorities. The achievement of the project's first objective is rated modest while the achievement of the second objective is rated substantial, and overall efficacy is rated as substantial. Efficiency is rated substantial. The project's overall outcome rating is Moderately Satisfactory [As per OPCS guidelines dated March 2, 2020, if overall efficacy and efficiency are each rated substantial, but if one of the objectives is rated modest, the overall PDO is rated moderately satisfactory].

a. **Outcome Rating**
Moderately Satisfactory

7. Risk to Development Outcome

Potential risks to development outcomes can be categorized into the following broad areas:

- **Political:** According to the ICR (p. 30), the government continues to be committed to the PDOs of the project and requested a follow-on project to further develop Bangladesh's IT industry. Furthermore, the government has also started two projects on e-government and IT/ITES industry development for maintaining the infrastructure, which was created under this project, sustaining the growth of the industry, and building capacity while the new Bank project (P161086) is being prepared (Board approval to be expected in May 2020). Therefore, the political risk to project outcomes is considered low.

- **Technical:** The project built capacity within the Bangladesh Computer Council (BCC) to carry out complex technologies. Therefore, the technical risk to project outcomes is considered low.

- **Sectoral**: Keeping the technical expertise and continuing to train people will be critical for sustaining project outcomes. According to the ICR (p. 30) the project was able to create significant demand by local beneficiaries for training, which was designed in collaboration with the IT industry. Several courses continued after project closure and the Dhaka University made the mid-level managers training course a regular training course.

- **Financial:** According to the ICR (p. 30) maintenance and operational costs of BCC have been included as line items in the government budget. Also, the new Bank project will ensure financing of activities to ensure the sustainability of project outcomes.

- **Human resources:** The ICR (p. 30) stated that most consultants who worked for this project were absorbed by the two new government projects ensuring smooth knowledge transfer between projects. Furthermore, BCC will hire 168 permanent staff to ensure the maintenance and sustainability of project outputs.

8. Assessment of Bank Performance

a. **Quality-at-Entry**

According to the ICR (p. 28) the Bank consulted with key stakeholders (Bangladesh Computer Council (BCC), ICT Division of the Ministry of Post, Telecommunications and IT, the IT/ITES industry associations and companies, and numerous universities across the country) and the project was built on findings from a detailed analytical Bank study conducted in Bangladesh in 2009. The ICR (p. 24) stated that the project design also took into account the lessons learned from Bank projects implemented in other countries. For example, one lesson that was considered was that having multiple implementing agencies in an

investment project could limit the implementation performance in Bangladesh resulting in enhancing the capacity of BBC.

The Bank identified relevant risks. The risk of staff capacity and potentially high staff turnover was rated as substantial. The project mitigated this risk by staffing the Project Coordination Unit (PCU) with technical specialists and fiduciary staff and provided them with additional training to strengthen their capacity.

The project's Results Framework had some shortcomings especially in respect of measuring export diversification, and intermediate indicators for the second objective (see section 9a for more details).

Quality-at-Entry Rating
Moderately Satisfactory

b. Quality of supervision

According to the ICR (p. 29) the Bank conducted regular supervision missions (on average every two to three months) as well as regular teleconference calls. The ICR stated that the 13 Aide Memoires and 12 Implementation Status Reports were sufficiently candid, detailed and reported on implementation progress. After the first year of project implementation the project was classified as a problematic project due to its low disbursement. In order to address this issue, the Bank worked with the government to accelerate procurement and delivery of priority activities. Also, in 2017 the Bank assigned a Co-Task Team Leader to provide additional support and supervision on the ground. According to the ICR (p. 29) the Bank also implemented several management mechanisms and provided close support to address implementation challenges such as (a) developing a disbursement spreadsheet to target high disbursement items and track progress; (b) procurement response tracking spreadsheet to manage World Bank clearances for timely responses; and (c) master schedule to track and monitor every activity and its procurement and implementation milestones.

The Bank restructured the project three times to make several modifications such adapting the indicators in the Results Framework. Also, the Bank ensured the project's compliance with the Bank's procurement and financial management guidelines.

Quality of Supervision Rating
Satisfactory

Overall Bank Performance Rating
Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The project's theory of change and how key activities would lead to intended outcomes was sound. Most of the selected indicators were adequate for capturing the contribution of the project's activities towards achieving the PDOs and were sufficiently specific and measurable. When possible, indicators had a baseline. All indicators had a target. However, PDO indicator 2 "e-government development index (EDGI)" was output rather than outcome focused. Also, intermediate outcome indicators for the second objective were weak and the Results Framework lacked indicators to measure export diversification. Finally, the indicators did not account for delayed impacts of industry activities on growth, employment, exports and potential sectoral disruption.

The Bangladesh Computer Council (BCC) was responsible for the project's M&E. The Results Framework would have benefitted from including additional indicators to measure export diversification such as export market size and product diversification.

b. M&E Implementation

According to the ICR (p. 26) the M&E specialist within the PCU conducted regular M&E activities. Data was collected consistently on a monthly, quarterly, and annual basis through reporting template that captured the required information from components. Throughout project implementation M&E was rated Moderately Satisfactory until the final Implementation Status Report since fully verified data was not available until the last year of project implementation. The Bank team reviewed the project's M&E on a regular basis. Also, the Project Steering committee met on a bi-annual basis to review the project's progress towards achieving the PDO. Finally, the Bank conducted a Mid-Term Review in September 2015 to assess the project's achievements towards the desired outcomes. Recommendations such as a restructuring of the project were implemented.

When the project received Additional Financing in September 2016, the targets of three indicators were increased (the PDO indicator "percentage of ministries that have undertaken one or more skills development course" was increased from 25 to 40 percent; the intermediate outcome indicators "savings in government IT spending" was increased from 15 to 20 percent, and "the number of manpower trained under the project" was increased from 30,000 to 40,000) and two new social indicators ("number of women trained and gained marketable skills", and "percentage of trainees satisfied with the training at Bangladesh Computer Council (BCC)") were added.

c. M&E Utilization

According to the ICR (p. 26) M&E data informed decision making such as restructuring of the project, providing Additional Financing, and extending the project closing date. The ICR (p. 27) stated that the project conducted a skill gap analysis of technical skills every six months. Feedback from top-up trainings showed that the initial three-months duration was not ideal for students and the trainings were extended to nine months to be aligned with the academic calendar year. Also, feedback was used by academic institutions to revise curricula and management courses.

M&E Quality Rating
Modest

10. Other Issues

a. Safeguards

The project was classified as Category C and only one Bank's safeguard policy OP/BP 4.01 (Environmental Assessment) was triggered. After the second restructuring an electrical substation for the expansion of the National Data Center (NDC) was installed. The ICR (p. 27) stated that an environmental screening/assessment was conducted and an environment management plan (EMP) was developed. The Project Coordination Unit ensured that the project complied with the EMP as well as with the health and safety measures for the workers during the construction phase.

b. Fiduciary Compliance
Procurement:

The ICR (p. 25) stated that most procurement had to be done through International Competitive Bidding since the packages were highly technical and the availability of suppliers and consultants was limited. Also, some packages had to go through special national and United States government vetting and high-level approval or had to be shipped from Europe, which took several months. According to the ICR (p. 28) during the initial implementation phase the Bangladesh Computer Council experienced some delays in the procurement of large ICT packages resulting in a Moderately Satisfactory procurement performance rating. However, the Project Coordination Unit (PCU) built procurement capacity and completed all the targeted procurement packages. The ICR (p. 28) stated that the Bank's post-review mission found that contract management needed improvement, which was addressed by the PCU. All contracts complied with the Bank's procurement guidelines and regulations and the project did not experience any instances of mis-procurement. According to the ICR (p. 28) the project's overall procurement performance was Satisfactory throughout implementation.

Financial Management:

According to the ICR (p. 27) the project had adequate internal control arrangements and disbursement systems. The PCU submitted interim unaudited financial reports and audit reports throughout implementation. The ICR (p. 28) stated that a computerized accounting software was used to monitor expenditures. Internal and external audits were conducted on an annual basis. In 2017, an extensive financial management review was conducted due to a large number of mis-categorizations of expenditures and turnover in Financial Management staff in the PCU. All mis-categorizations were resolved adequately. According to the ICR (p. 28) the project's financial management manual was based on the local finance system and included necessary internal control guidelines. The project staff was trained in the usage of the manual. According to the Bank team, the external auditor's opinion was unqualified.

c. Unintended impacts (Positive or Negative)
NA

d. Other
NA

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Moderately Satisfactory	Relevance of the objective was rated high as the project was fully aligned with the Bank's strategy and country's priorities. The achievement of the project's first objective is rated modest while the achievement of the second objective is rated substantial, and overall efficacy is rated as substantial. Efficiency is rated substantial. The project's overall outcome rating is Moderately Satisfactory [As per OPCS guidelines dated March 2, 2020, if overall efficacy and efficiency are each rated substantial, but if one of the objectives is rated modest, the overall PDO is rated moderately satisfactory].
Bank Performance	Satisfactory	Moderately Satisfactory	Weak M&E design with several shortcomings.
Quality of M&E	Substantial	Modest	The M&E design was weak. PDO indicator 2 "e-government development index (EDGI)" was output rather than outcome focused. Also, intermediate outcome indicators for the second objective were weak and the Results Framework lacked indicators to measure export diversification. Finally, the indicators did not account for

		delayed impacts of industry activities on growth, employment, exports and potential sectoral disruption.
Quality of ICR	---	Modest

12. Lessons

The ICR (p. 31-33) included very useful lessons, which were adapted by IEG:

- **The Information Technology (IT)/IT-Enabled Services (ITES) industry growth depends on a number of national and international macroeconomic factors. Therefore, delayed impacts of industry activities on growth, employment, exports and potential sectoral disruption need to be taken into account when defining the project's objective and selecting indicators for measuring achievement towards the objective**. In this project, data was limited for the selected indicators and the project had to develop its own industry study and rely on academic institutions to ensure the reliability of the data.

- **Building IT/ITES capacity across functions and organizational hierarchies is beneficial for the entire sector to stimulate industry development.** In this project, the digital business transformation training was particularly useful for local users to develop digital leadership mindsets and networks to the local and international industry standards.

- **Activities targeted to women can potentially result in higher female participation.** In this project, students enrolled in the project were selected from different science/engineering subjects with a selection process that maintained a minimum gender ratio of 30 percent to support women's participation. Also, communication activities were conducted by female spokes persons, targeting media channels, encouraging woman to become master trainers, and reaching out to women-oriented educational institutions. These approaches resulted in the training of over 10,000 women.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR provided an adequate overview of project preparation and implementation, included useful lessons learned and a detailed risk to development outcome section. However, the ICR did not sufficiently discuss attribution of important performance indicator values to the project activities, and other factors that may have contributed to the realized indicator values. The ICR was not sufficiently clear on significant details such as whether the project established a National Data Center or expanded it or if there were any other financial inputs

besides the governments. The ICR had inconsistencies such as providing different figures for the number of people trained, in different portions of the ICR

   a. Quality of ICR Rating
    Modest