NYCTDC
NYC Technology Development Corporation

FY17 OPERATIONS & ACCOMPLISHMENTS

WITH PERFORMANCE MEASURES

SEPTEMBER 2017

ABOUT THE NYC TECHNOLOGY DEVELOPMENT CORPORATION

The NYC Technology Development Corporation (NYCTDC) was a not-for-profit corporation that was formed in late 2012 to maximize efficient and effective implementation of City IT projects. NYCTDC provided senior project management services to critical, complex and/or high cost IT projects. In general, such projects often have budgets of over $25 million, involve multiple agencies or constitute Mayoral priorities. In addition, NYCTDC provided other IT management support to agencies managing their own projects. In 2017, the Mayor determined that NYCTDC had fulfilled its mission, and the NYC agencies would procure and engage for this type of support in other ways. NYCTDC employees were no longer employed by NYCTDC as of June 30, 2017 and the company then went in to the dissolution process, as managed by a Transition Team appointed by NYC.

NYCTDC employees were highly qualified and experienced IT professionals who perform many of the project management, quality assurance and other IT consulting services traditionally delivered by expensive for-profit firms. Using NYCTDC employees to perform these services benefited the City by helping to ensure that knowledge is retained and shared across current and future IT projects. As described in more detail below, NYCTDC had a significant impact on IT projects across the City and was delivering its services at a substantial savings to the City compared to the cost of engaging private PM/QA vendors for the same work.

NYCTDC developed a variety of project management and governance tools, including project dashboards, heat maps, and responsibility matrices which were utilized to coordinate and track the progress of projects and identify issues and risks. These tools provided the transparency needed by project steering committees to exercise effective oversight and enable NYCTDC to provide top quality professional management of the projects it was assigned.

Mission

The NYC Technology Development Corporation (TDC) is a non-profit information technology (IT) consulting organization whose sole client is the City of New York. TDC provides senior management and other IT consulting services for selected complex or significant technology initiatives.

The TDC's mission is to maximize efficiency and effectiveness in IT initiatives and operations by developing best practices and retaining skilled resources to provide services that would otherwise be performed by for-profit entities.

SERVICES PROVIDED

Under contract with the City of New York, NYCTDC provided senior management services which included:

- Instituting robust management procedures and risk tracking;
- Developing program plans and schedules;
- Monitoring budgets and overall execution against milestones and deadlines;
- Coordinating inter-agency meetings, communication and information sharing;
- Providing technical and architectural advisory services;
- Ensuring deliverables are reviewed in a timely manner;
- Identifying issue/risk ownership and escalating when necessary;
- Introducing best practices for project management and governance;
- Tracking key performance indicators;
- Defining high-level application /solution architecture specifications;
- Providing unified governance for vendor management and multi-agency program management.

NYCTDC provided portfolio management and additional IT consulting services in support of Information Technology for the City as directed by the Chief Information and Innovation Officer.

NYCTDC PERFORMANCE MEASURES

In Fiscal Year 2017, NYCTDC achieved the following:

- NYCTDC provided various types of *assistance to seventeen (17) projects*:

  - CCHR Systems (<$5MM)
  - DOB Now ($5MM-$25MM)
  - DOE Assessment Platform ($5MM-$25MM)
  - **DOE Bandwidth ($25MM+)**
  - DOE iLearnNYC (<$5MM)
  - DOE Impartial Hearing System (<$5MM)
  - **DOE Pre-K for All** (<$5MM)
  - **DOE Website Design & Build (<$5MM)**
  - DOF CRM Advisory (<$5MM)

  - **DOF Property Tax System ($5MM-25MM)**
  - **DOHMH ActionHealth (<$5MM)**
  - **DOHMH ThriveNYC/NYC Well (<$5MM)**
  - DoITT Enterprise Architecture (<$5MM)
  - **MOCS Citywide Procurement Innovation ($5MM-$25MM)**
  - **MOCS Labor Compliance Management (<$5MM)**
  - MOPI Assessment Refresh ($25MM+)
  - DVS VetConnect Advisory (<$5MM)

- NYCTDC provided Senior Management Service to eight (8) projects (in **bold** above).

- In January 2015, NYCTDC began tracking its projects by *budget categories* consistent with its contract. Of the six projects receiving Senior Management Services, NYCTDC supported the following (in parenthesis above):

  - 2 projects with a budget over $25 million;
  - 4 projects with a budget between $5-25 million;
  - 11 projects with a budget between $0-5 million;

- NYCTDC provided various types of assistance to twelve (12) unique agencies:

  - City Commission on Human Rights
  - Department of Buildings
  - Department of Citywide Administrative Services
  - Department of Education
  - Department of Finance
  - Department of Health and Mental Hygiene
  - Department of Information Technology & Telecommunication

  - Department of Veterans Services
  - Mayor's Office of Contract Services
  - Mayor's Office of Immigrant Affairs
  - Mayor's Office of Operations
  - Mayor's Office of Pensions and Investments

- NYCTDC utilized ten (10) different tools and best practices to provide oversight, transparency, and identification of issues and risks*;*

- In FY2015, the NYCTDC Board of Directors governance committee adopted an engagement reporting methodology based on industry standards and best practices. Information about that methodology and NYCTDC effectiveness in providing oversight, transparency, and early identification of issues and risks can be found in subsequent pages of this report.

- Sixteen full-time NYCTDC employees were providing IT professional assistance as of June 30, 2017. (Rounded 16.25 Service Professionals for the year).

NYCTDC PERFORMANCE MEASURES (CONTINUED)

- Compared to the $7.26-9.37MM in estimated costs that would have been incurred for comparable services from for-profit consultants, NYCTDC saved the City $3.63-$5.74MM in FY17.

- On a scale of 1 (Strongly Disagree) to 5 (Strongly Agree) NYCTDC clients responding to close-out surveys gave NYCTDC an average rating of 4.85 to the following statements:
  - I would engage NYCTDC again to support a large, complex or high priority project (4.85)
  - I would recommend NYCTDC services to a colleague (4.85)

PROVIDING OVERSIGHT, EFFICIENCY, AND STRATEGIC OPPORTUNITY ALIGNMENT

In FY2017, NYCTDC continued expanding its management and reporting methodologies to help provide oversight, transparency, and the identification of issues and risks by continuing to provide:

- Oversight by rating the health support of Critical Success Factors (CSF) and an "outside view" of forecasts and risks;
- Efficiency by monitoring resource allocations and forecasted projections of employee utilization against projects;
- Strategic Opportunity Alignment by Incorporation of a Project Opportunity Pipeline which enables the organization to tactically vet IT Project Opportunities and measure them against resource availability and Subject Matter Expertise.

Overall Ratings

NYCTDC monitored the current health of projects where a baseline had been established for scope, schedule and quality. By monitoring variances between planned and actual values in these core indicators, NYCTDC ensured projects stay on track.

Risk Ratings

Identification and on-going evaluation of risks provides an indication of a project's likely health in the near-term. Through identification, NYCTDC implemented tactics that exploit or mitigate these risks before a negative impact is realized by the project. NYCTDC evaluated risks using a probability-impact matrix for all projects and translated this evaluation into a detailed register for executive understanding and action.

Critical Success Factors Ratings

Empirical studies have shown that successful projects exhibit many of the same characteristics. Understanding these factors helps ensure the long-term health of the project. NYCTDC regularly reviewed and rates twenty (20) critical success factors to ensure project activities and processes are aligned for long-term success.

Tools and Best Practices

Below is a sample of the tools and best practices used by NYCTDC staff in their engagements:

- Business Process Diagrams
- Customer Feedback
- Governance Review Meetings
- Letter of Engagements
- Program/Project Dashboards

- Responsibility Matrices
- Risk Surveys
- Stakeholder Interviews
- Critical Success Factors
- Risk Registers

ACCOMPLISHMENTS

NYCTDC used these practices and tools to create solutions that address challenges and achieve positive impact. Below is a sample of projects on which NYCTDC has worked in the last year:

Pre-K for All

> *"I am thrilled that a record number of children will begin Pre-K for All today across New York City. Our high-quality pre-K programs offer children from every neighborhood a foundation for a bright future and I am proud that so many families are able to take advantage of this opportunity."*
> - **Deputy Mayor for Strategic Policy Initiatives Richard Buery**
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> *"TDC has been very valuable, in particular, for assisting with cross-agency and cross-divisional collaboration. [TDC] has been a critical support in managing this large-scale project and has been a joy to work with."*
> - **David Price, Chief Data Officer, Business Technology Strategy Group,**
>   **Office of the Chancellor, NYC DOE**

Challenge

In time for the 2017-2018 school year, the City sought to expand upon its mandate and register more than 70,000 4-year old children residing within City boundaries for the pre-kindergarten (Pre-K) program. The Pre-K team needed to conduct a coordinated outreach to tens of thousands of households to promote awareness and pre-enrollment. While the system existed to collect, enhance and rationalize data from multiple sources, allow supervisors to distribute call volumes across call centers and volunteers, the challenge was to provide for cleaner and more accurate data to achieve higher quality Outreach contact calls to reach the City target.

Multiple school/program types (District Schools, Pre-K Centers, NYC Early Education Centers, ACS Education Centers, and Charter schools) all using different pre-registration and enrollment processes and systems makes citywide data aggregation and reporting difficult. Policy allows families to pre-register at multiple schools and makes it difficult to understand where the student intends to actually enroll in the fall.

In addition, NYCTDC was issued a challenge to retire the main technology component, SAS DataFlux, due to its cost and limited support city wide while achieving high quality data rates. Note - as Pre-K was the only application utilizing SAS Data Flux, the contract renewal was upwards of 1MM+. This solution

would have to run parallel and be available for the very beginning of the Outreach Campaign to maintain proper information in all of the systems involved.

Solution

NYCTDC served in the program management role for the optimization and process re-engineering of the Pre-K outreach systems which included the Outreach Data Warehouse, Microsoft Dynamics CRM, PreKIDS, Data and Analytics Reporting Mart, Pre-K Finder application and all of the supporting software and processes to address this challenge. The main efforts completed to achieve this goal included improving the quality of the Outreach data (45.2% vs. 38.8%), augmenting the mobile reporting platform with school programs and resources, and adjusting school seat capacity to better serve communities not fully participating in Pre-K.

As part of 2017-2018 Campaign, NYCTDC led the effort to change the Technology stack from unsupported and expensive SAS DataFlux Fuzzy matching to a more sustainable and higher quality Data Match process utilizing SQL Server and SSIS DQS. The effort involved exercising due diligence with a variety of vendors and platforms; assessing capabilities and costs and arriving at an optimal solution. The current platforms are now fully supported and maintained by DoITT.

Impact

With this enhanced process, the City utilized the re-modeled Data Warehouse and CRM as part of the successful Outreach campaign to enroll over 70,000 new schoolchildren for the 2017-2018 school year, providing them with the rich benefits of Pre-K and setting them on thr path toward a lifetime of achievement.

Moving forward the Data and Analytics Department now has an Operational Data Mart for reporting that can filter data based upon class information, teacher information, school program information and student information updated daily.

Property Tax System (Department of Finance)

Challenge

The Property Tax System(PTS) for the City of New York handles one of the most fundamental functions of any municipality, collection of taxes. It accounts for approximately $25 Billion in revenues and is a critical source of funding for many of the services the citizens of the city rely upon for the daily lives. In addition to collecting residential property taxes it also collects water and other fees as a way of consolidating residential the bill most citizens receive from the city associated with their residence or other properties. The city's current mainframe based system was written over 25 years ago using now

antiquated technology and less then a user friendly interface. Comprised of two systems for handling property assessment and one for the actual billing, the current system had served the city well but was unable to keep up with ever changing legislation without major modifications.

Solution

A decision was made to replace the in-house developed COBOL system with a state-of-the-art commercial off the shelf (COTS) Windows-based system from Tyler Technologies. Tyler is the leading provider of residential property tax systems used by major cities across the United States. The project was initiated over 2 years ago with the intent of going live early in 2016.

Impact

NYCTDC was brought onto the project in March of 2016 when progress on customization and implementation was bogged down and not achieving expected results. NYCTDC was given the task of helping the project to get back on track by moving forward in an organized manner using our extensive project management techniques and skills. As part of this effort, work streams were established to organize and focus resources on achieving project milestones. An integrated project plan was created that tied together development, testing, data conversion, interfaces with other agencies, reporting, security, training and support. NYCTDC directly manages the integrated project plan, end-to-end user testing of the system, inter-agency interface development, resiliency analysis and overall technical reviews. Our skills have been used to help manage the multiple work-streams, escalate issues with the software vendor that have prevented progress and drive testing using a methodical approach developed by NYCTDC. The expertise and skills provided by NYCTDC has enabled a critical project to progress forward despite many issues to one where plans now call for going live in January 2018.

Direct Cost Savings to the City from NYCTDC Services FY17

Comparison of TDC Cost to Equivalent Vendor Rates

As of June 30, 2017 (Based on FY16 Actual - Cash Basis)

Role	TDC # of prof staff (FTE)	Average Hourly Rate[1]	Total annual cost[2]	PMQA Average City Rate Comparable title	Rate[2]	Comparable Total Annual Cost	PMQA Highest City Rate Comparable title	Rate[3]	Comparable Total Annual Cost
Program Manager	1.48	$132.73	$ 392,881	Project Manager III	$ 282	$ 834,720	Project Manager III	$ 341	$ 1,009,360
Portfolio Manager	1.00	$131.37	$ 262,740	Project Manager III	$ 282	$ 564,000	Project Manager III	$ 341	$ 682,000
Project Manager	7.09	$134.64	$ 1,909,195	Project Manager III	$ 282	$ 3,998,760	Project Manager III	$ 341	$ 4,835,380
Solution Architect	1.00	$134.06	$ 268,120	Specialist III	$ 286	$ 572,000	Specialist III	$ 409	$ 818,000
Business Analyst	3.45	$116.19	$ 801,711	Programmer Analyst III	$ 187	$ 1,290,300	Programmer Analyst III	$ 294	$ 2,028,600
Total personnel cost	14.02		$ 3,634,647			$ 7,259,780			$ 9,373,340

1 Average fully loaded hourly rate based on 2,000 hrs/year   Savings $ 3,625,133 $ 5,738,693

2 Average of all rates for Citywide RMQC Sevices - Year 1 Contract   % more expensive than TDC   99.7%   157.9%

3 Highest rates for Citywide RMQC Services - Year 1 Contract