

PROGRAMS/SPARTA**2024 PROJECT ACCOMPLISHMENT REPORT****I. Project Information****Project Code:** GXPSR**Project Title:** Smarter Philippines through Data Analytics R&D Training and Adoption (SPARTA)**Project Start:** January 1, 2024**Project End:** December 31, 2024**Project Price:** Php 6,932,616.32**Project Funding:** Public Offering**II. Project Team****Project Manager:** Donna Pamella D. Gonzales

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Project Smarter Philippines through Data Analytics Research and Development, Training and Adoption (SPARTA) started in 2019 through a grant from the DOST PCIEERD GODDESS Program, implemented by the Development Academy of the Philippines together with coordinating partner agencies Analytics and AI Association of the Philippines and Coursebank. After the project grant ended, the project was fully implemented by DAP using the Linang platform, through a public offering.

The project aimed to:

- a. Establish robust online education programs to upskill and reskill the workforce in data science and analytics, addressing the talent gap and promoting accessibility across diverse demographics;
- b. Equip professionals with skills in data science and analytics to transition into technology-resilient roles, mitigating job losses and mismatches caused by automation and artificial intelligence; and
- c. Foster adopting data-driven practices in public and private sectors to enhance decision-making, efficiency, and global service competitiveness.

Thrust Areas:

- a. **Human Capital Development in Data Science and Analytics.** Focused on upskilling and reskilling the workforce through online education, particularly in emerging fields like data science, analytics, and machine learning.
- b. **Promotion of Smart Governance Practices.** Enabling public sector organizations to adopt data-driven decision-making and efficient governance strategies through training and capacity-building programs.
- c. **Accessibility and Scalability of Education.** Leveraging massive open online courses (MOOCs) to provide inclusive and scalable learning opportunities to a broader audience, regardless of geographic or socioeconomic constraints.
- d. **Research and Development in Data Science.** Establishing mechanisms for advancing R&D in data analytics to foster innovation and support evidence-based policymaking.

Project Beneficiary: General Public

Regional Coverage: Nationwide

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IV. Project Accomplishments

SPARTA aimed to enroll **1,800** learners across its main and microspecialization pathways. The project successfully engaged **867** unique enrollees, achieving **48%** of the enrollment target. Additionally, the project had 4,795 (**678** unique) course completers achieving a **78.20% completion rate**. These outcomes highlight SPARTA's steadfast commitment to fostering data-driven expertise and delivering substantial progress in building a skilled workforce despite ambitious targets.

People. SPARTA produced **280** (271 unique) main pathway completers and **764** (310 unique) microspecialization completers.

Table 4.1. SPARTA Main Pathways Total Completers.

Main Pathway	No. of Completers	Percentage
Data Associate	103	36.79%
Data Scientist	56	20.00%
Data Analyst	54	19.29%
Analytics Manager	40	14.29%
Data Engineer	20	7.14%
Data Steward	7	2.50%
Grand Total	280	100%

Table 4.2. SPARTA Microspecialization Pathways Total Completers.

Microspecialization	No. of Completers	Percentage
Operational Analytics	141	18.46%
Computing	96	12.57%
Methods and Algorithms	91	11.91%
Data Visualization	87	11.39%
Statistical Techniques	79	10.34%
Domain Knowledge: Analytics Project Management	70	9.16%
Research Methods	69	9.03%

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Microspecialization	No. of Completers	Percentage
Data Governance	49	6.41%
Domain Knowledge: Finance and Risk	27	3.53%
Public Policy and Governance	21	2.75%
Domain Knowledge: Human Resources	21	2.75%
Domain Knowledge: Urban Planning	13	1.70%
Grand Total	764	100.00%

Products. SPARTA produced the following outputs:

- Maintained **6 main pathways** and **12 microspecializations** during the project's implementation.

Table 4.3. List of SPARTA Main Pathways

Pathway
Data Associate
Data Steward
Data Analyst
Analytics Manager
Data Engineer
Data Scientist

Table 4.4. List of SPARTA Microspecializations

Microspecialization	
Analytics Project Management	Methods and Algorithms
Computing	Operational Analytics
Data Governance	Public Policy and Governance
Data Visualization	Research Methods
Finance and Risk	Statistical Techniques
Human Resources	Urban Planning

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- b. Launched revised **30 massive open online courses (MOOCs)**, hosted on Linang, DAP's Learning Management System.

Table 4.5. List of SPARTA Courses

No.	Course Code	Course Title
1	SP101	Getting Grounded with Analytics
2	SP102	Designing and Building Data Products
3	SP201	Essential Excel Skills for Data Preparation and Analysis
4	SP301	Data Management Fundamentals
5	SP302	Enterprise Data Governance
6	SP203	SQL for Business Users
7	SP401	Dashboards and Drill-Down Analytics
8	SP202	Computing in Python
9	SP501	Data Visualization Fundamentals
10	SP502	Data Visualization Using Tableau and Python
11	SP503	Storytelling using Data
12	SP601	Data-Driven Research Fundamentals
13	SP602	Experimental Design and Analysis
14	SP701	SQL for Data Engineering
15	SP702	Python for Data Engineering
16	SP703	Advanced Data Engineering
17	SP801	Statistical Analysis and Modeling using Excel
18	SP802	Statistical Analysis and Modeling using SQL and Python
19	SP901	Data Science and Machine Learning using Python
20	SP902	Deep Learning Using Python
21	SP1001	Design Thinking for Analytics
22	SP1002	Analytics Applications in Operations
23	SP1003	Analytics Applications in Finance and Risk

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24	SP1004	Data Science and Analytics Project Management
25	SP1005	Data-Driven Policy Analysis
26	SP1006	Applied Analytics in Public Human Resource Management
27	SP1007	Applied Analytics in Public Finance and Budgeting
28	SP1008	Data Engineering in e-Governance Systems
29	SP1009	Urban Planning in the Fourth Industrial Revolution
30	SP1010	Livable and Sustainable Cities in e-Governance

- c. Conducted **Live Course Sessions (LCS)** through the Zoom application for **2 Microspecializations (MS): Operational Analytics and Data Visualization**.

Based on participants' evaluations, the Operational Analytics Microspecialization received an overall course satisfaction rating of **4.31 (Very Satisfactory)**, while the Data Visualization Microspecialization achieved a rating of **4.54 (Very Satisfactory)**. These results reflect the effectiveness and value of the training in addressing participants' learning needs.

Table 4.6. Operational Analytics MS LCS Satisfaction Rating

Course	Average Course Satisfaction Rating	Percentage of Positive Rating (4 and 5)
SP101	4.37	95.82%
SP201	4.27	96.57%
SP401	4.37	97.88%
SP1002	4.22	98.75%
Over-All Rating	4.31	97.26%

Table 4.7. Data Visualization MS LCS Satisfaction Rating

Course	Average Course Satisfaction Rating	Percentage of Positive Rating (4 and 5)
SP101	4.68	100%
SP201	4.31	98.77%

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SP501	4.61	99.83%
SP502	4.51	94.12%
SP503	4.61	99.84%
Over-All Rating	4.54	98.51%

- d. Conducted a **5-day face-to-face training on Data Analytics** at the Hotel Metro Sky Restaurant in Kalibo, Aklan, from September 7 to 11, 2024. The event was attended by **50 employees** from the Provincial Government of Aklan's offices, including the Provincial Local Finance Committee Chairperson, Mr. Bernardino Villaruel, who initiated and coordinated with DAP SPARTA to organize this training.

This training equipped participants with essential data analytics competencies to enhance their effectiveness in performing their tasks. It provided practical insights into their current data capabilities and introduced strategies for improving data-driven decision-making processes.

The training concluded with group project presentations, in which the participants showcased their developed dashboards, which provided actionable insights and solutions to address the challenges and issues encountered in their respective offices.

- e. Spearheaded events aimed at increasing awareness and learner engagement, including:

i. The Philippine Conference on Data Analytics.

The **3rd Philippine Data Analytics Conference**, co-organized by the Development Academy of the Philippines and Mapúa University, was held in September 2024 with the theme "**Data Analytics in the Fifth Industrial Revolution: Innovating Industry and Academic Practices.**" The conference has been held over three consecutive years since 2022. This conference emphasized the critical role of data analytics in advancing both industrial and academic sectors to meet the evolving demands of technological progress. The event featured discussions and presentations that showcased innovations and best practices in data analytics, highlighting its transformative impact across various fields.

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The **Online Kumustahan: DAP SPARTA Learner Support Session**, held on **29 June 2024** via Zoom application served as the venue for learners to share their experiences on DAP SPARTA courses, specifically on the challenges they encounter in online learning. This event also gave a glimpse into the arrangement of the DAP SPARTA Group Learning Sessions, which was also officially launched during this event. There were breakout sessions for the different courses with the invited Subject Matter Experts who discussed some topics about the course, shared tips, and answered questions from the attendees.

iii. Data Analytics Webinar.

The DAP SPARTA Webinar, "**Visualizing Data: A SPARTA Webinar**," held on **May 24, 2024**, via Zoom and YouTube livestream, was a significant event that hosted **895** representatives from numerous esteemed organizations. This demonstrated the widespread recognition of the importance of acquiring data visualization skills in organizational institutions.

Among the distinguished participants include:

- Planning & Research Office of DepEd Carcar City Division, Cebu
- Bureau of Internal Revenue, Zamboanga City
- Philippine National Railways, NCR
- Ministry of Public Works - BARMM
- Light Rail Transit Authority
- Philippine Statistics Authority, Sultan Kudarat Provincial Statistical Office
- University of Science and Technology of Southern Philippines - System
- Local Government of Quezon City, City Planning and Development Department
- Local Government Unit of Makati
- New Era University
- Benguet State University
- Eulogio "Amang" Rodriguez Institute of Science and Technology (EARIST), Manila
- Ilocos Sur Polytechnic State College, Tagudin Campus
- Laguna State Polytechnic University, Siniloan Campus
- San Juan City Jail
- Zamboanga City Jail

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iv. Group Learning Sessions (GLS).

The GLS is a professional approach where a group of learners and their mentors work together to achieve a common learning objective. The GLS had successfully engaged **25 mentors** and around **100 learners**. GLS Mentors were SPARTA pathway completers who voluntarily committed to share their knowledge, experiences, and strategies when they took and completed the courses.

These sessions encouraged collaboration, discussion, and mutual support among learners and mentors, enhancing their understanding and retention of the subject matter.

The GLS were conducted through:

1. **Mentoring Session** - is a formal and structured interaction between mentors and learners where mentors discuss challenging topics in a course.
2. **Kumustahan Session** - is an informal check-in or catching-up session where mentors and learners ask about each other's well-being and share updates about their progress in their course/s or pathway/s.
3. **Group Study Session** - is a dedicated time where learners simultaneously study their courses. Mentors were available online for questions or concerns through a chatroom.

v. Recognition Ceremony.

Since the beginning of Project SPARTA, it has consistently held a recognition ceremony to celebrate the achievements of learners who have successfully completed their main and/or microspecialization pathways. It honors top-performing learners, completers who have earned their certifications, and institutional partners who have contributed to the initiative's success. The ceremony featured keynote speeches, special awards, and highlights of the project's impact on building the Philippines' data-driven workforce. It serves as both a milestone for learners and an inspiration for future participants to advance their expertise in data analytics.

- f. To provide dedicated and immediate support for our learners, this year, 2024, SPARTA assigned a Learner Support staff member who guided the learners on course enrollment, platform navigation, and technical issues, ensuring a smooth learning experience. Additionally, the support system addressed questions about course content, program policies, and course or pathway completion requirements while escalating complex concerns when necessary. By offering timely and accurate responses, the support system enhanced learner engagement, minimized disruptions, and contributed to the overall success of the program.

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Publications. SPARTA conducted a research study titled “**The Influence of Data Analytics MOOCs in Making Career Decisions: The Case of Project SPARTA Completers**” which explored the impact of completing SPARTA data analytics courses. Results showed that semi-structured interviews revealed that MOOCs help professionals improve their self-efficacy through Modular Instructions and that participants also developed key data analytics skills such as Root Cause Identification, Dashboard Creation, and Data-driven Presentations.

This research paper is a draft and has not yet undergone review.

Partnerships. SPARTA established partnerships with the following **5 educational institutions**:

1. Bulacan State University
2. Far Eastern University - Institute of Technology
3. Iloilo State University of Fisheries Science and Technology
4. Mapua University
5. Pangasinan State University

These partnerships involved various collaborations, including course integration, scholarship nomination, career opportunities, and event co-organizing and sponsorship.

V. Project Finances

Please see the attached financial plan.

V. Attachments

- A. 2024 SPARTA Pathway and Microspecialization (MS) Completions
- B. 2024 List of SPARTA Courses and Enrollment Fees

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