



Republic of the Philippines  
**Department of Education**  
REGION IV-A CALABARZON  
CITY SCHOOLS DIVISION OF BIÑAN CITY

**Digital Maturity of DepEd Binan City towards the Development of  
DX Roadmap 2024 – 2026**



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**ABSTRACT**

The Philippine Digital Transformation Strategy 2022 has been created to prioritize the country's national interests and ambitions. Digital Transformation has started in Department of Education since 2017. DepEd has purposely created the Digital Rise Program to provide a well-crafted ICT framework and the appropriate tools for teaching and learning to fulfill. This research aimed to identify the digital maturity of employees in DepEd Binan City to develop DepEd Binan City DX Roadmap 2024 – 2026. Specifically, it aimed to (1.) determine the respondents' demographic profile in terms of Sex, Years in Service, and Nature of work, (2.) determine the level of digital maturity of the respondents, (3.) determine the significant difference on respondent's level of digital maturity when grouped according to demographic profile, and (4.) developed DepEd Binan City DX Roadmap 2024 – 2026 based on the findings. Mixed method research design was utilized. The study's respondents were 213 employees of DepEd Binan City – Teaching, and Non-Teaching personnel.

Their demographic profile revealed that majority of the respondents were female, had been in the service for 1 to 10 years, and with teaching positions. The level of digital maturity of DepEd Binan City, as an organization, was able to blend the digital and physical world as characterized by Differentiators. Test of difference was made on the level of digital maturity of the organization when grouped according to demographic profile. It was identified that sex and teaching position had nothing to do with the level of digital maturity of the organization. However, years in service showed significant difference in digital maturity level. It identified that those who are in the organization for 0-10 years were more matured in terms of digital than those who were in the service for 11-20 years. A proposed DX Roadmap 2024 – 2026 (Figure 1) was also crafted as a guide for the organization in developing its digital strategy.

**Keywords:** *Digital Transformation, Digital Maturity, Digital Transformation Roadmap,*

## INTRODUCTION

The Philippine Digital Transformation Strategy 2022 has been created to prioritize the country's national interests and ambitions. Known as e-government 2.0, it aims to achieve strong citizen engagement through institutionalizing closed-loop, multidimensional and multidirectional communication channels.

Built on the foundations of infrastructure development, human capital development and bridging the digital divide, the strategy is based on three pillars: economic transformation, people engagement and innovation.

Public sector agencies agree, across the board, that cloud computing is a wise option because it reduces the cost of purchasing, setting up, running and maintaining daily technology services. Cloud computing has been proven to empower the public sector with the ability to streamline technology operations and significantly improve efficiency in processing citizen-facing transactions.

Ona (2022) suggests for the development of Philippine Digitalization Strategy and Roadmap in which the national digitalization effort's aims, phases, and major milestones are outlined. The strategy will emphasize the relevance of digitization in fulfilling the country's post-COVID development goals and using a holistic approach. It should also address the need for digital transformation in government, as well as the necessity to secure the country's digital infrastructure.

This is precisely what is covered in the Full Digital Transformation Act of 2020 or Senate Bill (SB) No. 1793. Filed by Senator Sherwin Gatchalian in 2020, it is an "Act mandating the full digital transformation of all government agencies, officers, and corporations, including local government units, appropriating funds therefor and for other purposes", according to the Senate of the Philippines website.

What's laudable about this Bill is that it covers the full end-to-end scope of digital transformation, i.e. streamlining of "procedures by adopting automation and digitization of government services"; build-up

of the government's technology capabilities such as the establishment of data centers and cybersecurity facilities; harmonization of common data related to persons, transportation, and multiple domains; the use of open-source systems; investment in the development of organizational capability and staff competencies; and most importantly, the creation a Digital Transformation department (DTD) in "every government agency, office, corporation, instrumentality, and unit".

Department of Education, with the goal for learners to keep up with the ever-changing world of technology, adopted a new policy that will enhance the teaching and learning experience - The Digital Rise Program. It forms part of the Public Schools of the Future framework, under the leadership of Secretary Leonor Magtolis Briones, and in line with Philippine Development Plan 2017-2022 under the administration of President Rodrigo Roa Duterte. DepEd is set to introduce aggressive reforms to globalize the quality of basic education in the Philippines. This digital transformation in government offices was also mentioned by President Ferdinand Marcos Jr. during the State of the nation address last July 2022. He mentioned that the world moves into rapid digitalization and digital divide will become more pronounced. The depth and breadth at which these technologies will be transformative in our lives is fully expected. This will open new opportunities for the creation of wealth but will also likely create inequalities.

Digital Transformation has started in Department of Education since 2017. DepEd has purposely created the Digital Rise Program to provide a well-crafted ICT framework and the appropriate tools for teaching and learning to fulfill. It aims to promote Digital Literacy Skills together with the implementation of k-12 curriculum, it promotes ICT assisted Teaching and Learning, as well as automation of organizational and operational processes. After many programs and project implementations, this year marks the end of that roadmap, and it is essential to evaluate the Digital Maturity of employees in DepEd Binan City.

A researcher (Ona 2022) also mentioned that Filipinos anticipate that their leaders will symbolize hope by ensuring stability and providing clarity of purpose. This implies that future national leaders must be aware of the possibilities. Digitalization's drawbacks, this will enable these players to negotiate the complexities and help the Philippines accomplish its objective of being resilient. As a result, she suggested that government office must (1.) Develop a Digitalization Strategy and Roadmap, which shows the digitalization effort's aims, phases, and major milestones are outlined in this roadmap.

The proponent of this research is eager to establish DepEd Binan City DX (Digital Transformation) Roadmap 2024 – 2026 by determining the digital maturity of the school employees in Binan City.

## METHODOLOGY

Mixed method research design was utilized by this research since text analysis will be conducted to obtain the result of the quantitative data.

The study's respondents are the (213) employees of DepEd Binan City – Teaching, and Non-Teaching personnel. They were chosen thru random sampling technique. They were the primary source of data to identify the digital maturity of DepEd Binan City as an organization. The study will be conducted as soon as the proposal is approved.

The researcher used adopted questionnaire - contextualized, and validated in order to obtain the necessary data for this study. It was used to obtain data from the research respondents. It is divided into two main sections: (1) the respondents profile (2) the survey proper on the DepEd Binan City Digital Maturity. The level of maturity to undertake DX were measured using the model of Forrester (2016) which is composed of 4 different dimensions, Culture, Technology, Organization, and Insight.

Quantitative data will be analyzed using the following:

1. Percentage will be used to describe respondents' demographic profile.

2. The weighted mean will be used to identify the digital maturity level of employees in DepEd Binan City; the following measures will be used:

Assigned Points	Numerical Range	Verbal Interpretation
4	3.26 - 4.00	Differentiators
3	2.51 - 3.25	Collaborators
2	1.75 - 2.50	Adopters
1	1.00 - 1.75	Skeptics

4. Ranking will be used to identify the strengths and weaknesses of DepEd Binan City in terms of Digital Maturity to come up with a DX Roadmap.

5. Fishers test and Mann-Whitney U were used to identify significant differences on digital maturity when grouped according to demographic profile.

Data collection started as soon as the research proposal is approved. The researcher asked permission from SDO – Binan City for the distribution of the questionnaires. A memorandum was released for all offices to be obliged to watch a pre-recorded brief orientation about the scope of the research followed by answering the survey. The researcher used online survey questionnaires as the main data gathering instrument. It was distributed through Google forms as it is the best way to gather data. Each questionnaire was collected, organized, presented, analyzed, and interpreted. Respondents were assured of their privacy and confidentiality of information about their identities.

## RESULTS

This study aimed to identify the digital maturity of employees in DepEd Binan City to develop a digital transformation roadmap 2024 – 2026.

Question 1. What is the respondents' demographic profile in terms of Sex, Years in Service, and Nature of work?

Table 1. Demographic Profile of the Respondents

Sex	N	Percent
Female	138	64.8
Male	75	35.2

	213	
Years in Service	N	Percent
21-above	15	7
11-20	57	26.8
0-10	141	66.2
	213	
Teaching Position	N	Percent
Non-Teaching	48	22.5
Teaching	168	77.5
	213	

Table 1 shows the demographic profile of the respondents of this study. Majority of the respondents were female (n=138,64.8%), had been in the service for 1 to 10 years (n=141, 66.2%) and with teaching positions (n=168, 77.5%).

Question 2. What is the level of digital maturity of the respondents in terms of Culutre, Technology, Organization and Insights?

Table 2. Level Digital Maturity of DepEd Binan City

Digital Maturity	Mean	SD	Rank	Level
Culture	3.31	0.533	1	Differentiators
Organization	3.3	0.547	2	Differentiators
Technology	3.21	0.624	4	Collaborators
Insight	3.24	0.635	3	Collaborators
	3.26	0.551		Differentiators

Table 2 shows the level of digital maturity of DepEd Binan City as an organization. It is Shown that the organization is characterized as Differentiators. It shows that the organization was able to blend the digital and physical world in general. However, survey reveals that we were just using digital to create advantage as characterized by Collaborators under Technology and insights.

It had been identified some points to be improved in the digital strategy such as hiring of the right IT to execute the digital strategy, prioritizing customer journey over functional silos, capitalizing modern architectures (APIs, cloud, etc.) to promote speed and flexibility

and to use customer-centric metrics to measure success. However, it is very notable how the organization enhances the digital strategy, how it dedicates resources to digital strategy, governance and execution, the use of tools to promote employee innovation, collaboration, and mobility as well as in feeding lessons learned from digital programs back into the strategy.

Question 3. Is there significant difference on respondent's level of digital maturity when grouped according to demographic profile?

Table 3. Test of Difference on Level Digital Maturity of DepEd Binan City when Grouped According to Sex

		Statistic	p
Digital Maturity	Mann-Whitney U	5040	0.754

Significant Level at 0.05

Table 3 shows the result on the test of difference made on the level of digital maturity of the organization when grouped according to sex. It is clearly shown that sex has nothing to do with the level of digital maturity of the organization (U=5,040,  $p>0.05$ ).

Table 4. Test of Difference on Level Digital Maturity of DepEd Binan City when Grouped According to Years in Service

	F	df1	df2	p
Digital Maturity	3.18	2	210	0.043

Significant Level at 0.05

Table 4 shows the result on the test of difference made on the level of digital maturity of the organization when grouped according to years in service. It is clearly shown that ones years in service has something to do with the level of digital maturity of the organization (F=3.18,  $p<0.05$ ). Table 4.1 further elaborates where the difference could be found.

Table 4.1. Games-Howell Post-Hoc Test

		11-20	21-above
0-10	Mean diff	0.201	0.1937
	p-value	0.024	0.57
11-20	Mean diff	—	-0.00695
	p-value	—	0.999

Significant Level at 0.05



Table 4.1 shows the result of Games-Howell Post-Hoc Test to identify where the significant difference could be found among different groups. It is shown that significant difference was found on groups with 0-10 and 11-20 years of experience. Table 4.2 discuss the digital maturity level of the two groups.

Table 4.2. Level of Digital Maturity when Grouped According to Years of Service

Years in Service	n	Mean	SD	Level
0-10	141	3.33	0.563	Differentiators
11-20	57	3.13	0.445	Collaborators
21-above	15	3.14	0.706	Collaborators

Significant Level at 0.05

Table 4.2 shows the digital maturity of the employee who are in the service for 1-10 years and 11-20 years. It described that employees who are in 0-10 years of service are Differentiators (mean=3.33, DS=0.563) and employees who are in 11-20 years of service were Collaborators (mean=3.13, SD=0.445). It implies that those who are in the organization for 1-10 years were more matured in terms of digital than those who were in the service for 11-20 years.

Table 5. Test of Difference on Level Digital Maturity of DepEd Binan City when Grouped According to Teaching Position

		Statistic	p
Digital Maturity	Mann-Whitney U	3722	0.526

Significant Level at 0.05

Table 5 shows the result on the test of difference made on the level of digital maturity of the organization when grouped according to teaching position. It is clearly shown that teaching position has nothing to do with the level of digital maturity of the organization ( $U=3,722$ ,  $p>0.05$ ).

Question 4. What key findings may be used as basis in developing DepEd Binan City DX Roadmap 2024 – 2026?

## DepEd Binan City DX Roadmap 2024 – 2026

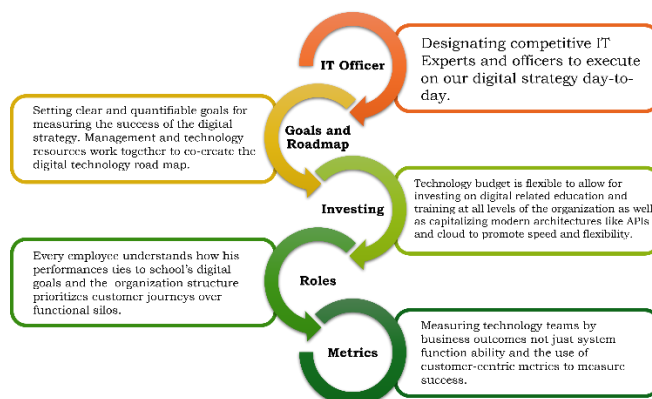


Figure 1. DepEd Binan City DX Roadmap 2024 – 2026

Figure 1 shows the DepEd Binan City DX Roadmap for 2024 – 2026. It Highlights all the goals necessary to enhance and promote digital transformation in DepEd Binan City. Enumerated are the goals and priorities of the organizations that must be accomplished each year for a span of 3 years. Digital maturity test must be done after the roadmap has been finished to enable redirecting the goals for digital transformation.

## DISCUSSION

In view of the established findings, it was found out that DepEd Binan City was able to blend the digital and physical world in general as an organization since the level of digital maturity is characterized as Differentiators. However, the organization was just using digital to create advantage in Technology and Insights characterized under Collaborators.

It had been identified some points to be improved in the digital strategy such as hiring of the right IT to execute the digital strategy, prioritizing customer journey over functional silos, capitalizing modern architectures (APIs, cloud, etc.) to promote speed and flexibility and to use customer-centric metrics to measure success.

However, it is very notable how the organization enhances the digital strategy, how it dedicates resources to digital strategy,

governance and execution, the use of tools to promote employee innovation, collaboration, and mobility as well as in feeding lessons learned from digital programs back into the strategy.

Sex and teaching position had nothing to do with the level of digital maturity of the organization. However, years in service showed significant difference in digital maturity level. employees who are in 0-10 years of service are Differentiators and employees who are in 11-20 years of service were Collaborators. It implies that those who are in the organization for 0-10 years were more matured in terms of digital than those who were in the service for 11-20 years.

Based on the findings a proposed DX Roadmap 2024 – 2026 (Figure 1) was also crafted as a guide for the organization in developing its digital strategy.

## ACKNOWLEDGEMENTS

The researchers would like to extend their sincere gratitude and immense appreciation to the following individuals who helped make this study:

First and foremost, praises and thanks be to God, the Almighty, who has blessed and enabled the researchers to complete this study by providing his with courage and wisdom. In the absence of His tremendous grace and providence, this research would not be possible.

Edna Faura-Agustin, the Schools Division Superintendent in SDO Binan City, for allowing the researcher to conduct this study in Binan Integrated National High School. Her never-ending support in this kind of endeavor is remarkable;

Mr. Oliver P. Caliwag, the school head of Binan Integrated National High School, for the permission to carry out the study;

All teaching and non-teaching personnel of Binan City who participated and cooperated in the conduct of this study;

Ms. Monique Malabayabas, Ms. Rhadca Joy Santos, and Ms. Angeline P. Rivad, for validating the research instrument and sharing their expertise in research that led to the success of this study;

The family of the researcher for their love, prayers, and undying support. Their pieces of

advice motivated him to continue with this study;

Lastly, to those who were not named but who directly and indirectly inspired and gave hope to the researcher during his journey.

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