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AI Prediction Model to Investigate the GovTech Maturity Index (GTMI) Indicators for Assessing Governments' Readiness for Digital Transformation

Yahya AlMurtadha[1,*]

[1]*Department of Computer Science, Faculty of Computers and Information technology, University of Tabuk, Saudi Arabia*

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Abstract

Digital transformation helps governments improve their efforts to provide services to beneficiaries around the clock. However, governments must consider the potential disadvantages of unplanned digital transformation such as lack of attention to cybersecurity standards, which could put citizens' data at risk, or resistance to change and adoption of new technologies by government employees. The goal is for governments to take a comprehensive, well-planned approach to digital transformation that addresses people, processes and technology. Hence, governments should utilize digital maturity models to assess their current state and develop a plan for successful digital transformation. Governments especially are seeking for a smart transition to a mature digital transformed state. Therefore, this study proposes using the digital transformation maturity index as a systematic framework for governments to assess their digital transformation and plan a successful digital transformation. This study suggests using AI prediction algorithms to chart a path for a mature digital transformation. Hence, this study builds a model that predicts government maturity level to one of four maturity classes (A, B, C, and D) using several AI prediction techniques on the World Bank GovTech dataset, which contains 48 important indicators used to measure the GovTech maturity index. The results show that decision tree algorithm outperforms other approaches in terms of prediction accuracy. Government's experts may thus utilize decision trees to determine the digital transformation maturity index success route starting at the root and working their way up to the leaf. The results also highlight the need for a government to examine three essential indicators for a successful digital transformation with higher maturity class: universally accessible citizen-centric public services, a national strategy to connect all departments under one goal, and transparency. The study concludes that governments should embrace holistic and well-planned digital transformation while considering factors such as cultural and behavioral changes, future disruptions and emerging technologies

Keywords: GovTech Maturity Index, Digital Transformation, Digital Transformation Maturity Index, DXMI, AI Prediction

1. Introduction and Motivation

There has been a global change in the ways that Small and Medium-sized Enterprises [1], businesses, and governments are delivering services. Digital transformation (DX) is a methodology for organizations to integrate digital technology in all business areas, leading to radical changes in service delivery and customer values. The main goal is to reach the beneficiaries - citizens or customers - and give them access to services via DX. Additional objectives include creating and presenting new values and updating or altering the way business is conducted. Many companies that were popular and competitive at the global level have failed during the last period and their icon has faded from the minds of the beneficiaries due to their lack of awareness of the necessity of studying and analyzing the methodology of providing services and adopting modern technologies in reaching customers and facilitating services. On the other hand, many startups have benefited from this and used the emerging modern technology well to expand. For example, integrated e-commerce platforms were used for marketing, selling, delivery, and customer service, which broke the geographical barrier and made it global. For governments seeking to improve their services and efficiency, DX is a strategic priority [2]. Governments are seeking to adopt DX to ensure their services are 24/7 available to citizens. Therefore, the digital transformation maturity index (DXMI) is a suitable framework for measuring governments' digital transformation maturity. The main contribution of this study is to presents a prediction model for governments to discover the most

***Corresponding author: Yahya AlMurtadha (y.murtadha@ut.edu.sa)**
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effective World Bank indicators for getting a higher DXMI class to serve them as a base for a transition to a smart government. To prepare the reader, next section details the digital transformation, how digital transformation helps in governance, and AI role for innovative digital transformation.

This paper is organized as follow: the related works will discuss the previous works on digital transformation and the DXMI. Then the methodology part will explain the application of several AI techniques to World Bank's GovTech dataset to choose the most suitable AI technique in terms of accuracy. After that, explain the proposed prediction system of assessing government's digital transformation mature class. Then the selected AI technique will be applied in the process of extracting the best indicators from the World Bank's data set. Finally, discuss how these indicators are necessary for assessing readiness for digital transformation.

2. Related Work

DX offer numerous advantages, including 24/7 services availability, accessibility, improved collaboration, personalized services, increased efficiency, and global reach. DX is a huge change in society, business, and organizations, driven by technologies such as artificial intelligence (AI), big data analytics, and the Internet of Things (IoT) [3]. Examples include developing digital solutions, shifting from office equipment to cloud computing, and using smart sensors to ensure business continuity and reduce operating costs. This approach drives cultural and operational transformations that align with changing customer demands. Hence, DX challenges companies' strategy and processes, affecting internal and external borders and authority conflicts [4]. Thus, results show that digitalization investment has improved production efficiency [5]. For instance, according to research of 167 global automobile businesses, DX is predominantly strategic [6] supporting that DX is a driving element in the development of competitive advantages for organizations and communities [7]. For example, DX has an impact on talent management and the ability to attract and retain employees [8]. The education [9] market, as another example, is changing as well due to DX, but colleges are slow to adjust [10]. Small and Medium-sized Enterprises.

2.1. Digital Transformation (DX) for Governing Institutions

Integrating digital technology across business departments transforms operations and stakeholder value, significantly impacting institutions and individual services as follows: 1) the improvement of citizen's access to information and services is one area where digital transformation may have an impact. Public and private sectors may minimize paperwork and expedite procedures by digitizing administrative procedures, which will make it simpler for individuals to get the services they need in a timely manner. 2) The cooperation between managers and staff may be enhanced through digital transformation, allowing for more productive work. Digital technologies can be applied, for instance, to virtual meetings, document sharing, and research project collaboration. 3) DX may help departments track and analyze employee's performance data more effectively, enabling them to spot areas where help is might needed and adjust individual's services accordingly. 4) DX may help departments become more effective, responsive, and efficient to the requirements of their stakeholders and people while also enhancing their capacity to self-govern and make wise decisions.

2.2. Innovative Digital Transformation

Innovation in digital transformation calls for an innovative mindset and a readiness to try out novel ideas and methods. Institutions can remain ahead of the curve and give customers the greatest services by embracing innovation. Innovation in digital transformation necessitates redefining how institutions work and give value to their stakeholders by utilizing cutting-edge technology and novel techniques such as: the application of artificial intelligence (AI) to customize customer experiences. The advancement in AI technologies has increased the need for strategies for selecting and implementing AI technologies for digital transformation [11]. AI may analyze client data and provide personalized recommendations [12] for services, service channels, and better alternatives. This may keep customers loyal, interested, and motivated, which will result in better results. But digital transformation in governments must also take into account important ethical considerations, such as AI bias and its potential impact on government services. This is an important consideration because if the underlying data and models are flawed or biased, AI-based policy analysis and decision-making can skew government priorities and resource allocation. Another illustration is the development of immersive experiences using Metaverse (virtual reality VR and augmented reality AR) [13]. Metaverse helps create virtual environments that mimic real-world situations at a lower cost and in less time. The use of block chain technology [14] to improve security and transparency in administrative processes is another achievement in digital transformation to reduce the risk of data breach.

2.3. Digital Transformation Maturity Index DXMI

The DXMI is a framework that consists of a set of criteria that is used to evaluate an organization's digital maturity in areas such as digital leadership and digital governance, strategic planning, digital culture and mindset, and emerging technologies used for digital transformation. Each criterion can be divided into indicators that provide more accurate information about the level of digital maturity of the organization. Monitoring digital maturity is a methodology for understanding current condition, readiness [15] as well as establishing indices for evaluating nations' digital maturity [16] especially for developing countries [17]. It enables organizations to assess their present digital capabilities, identify weaknesses, develop improvement strategies [18], and find opportunities for development [19]. It can also be used as a benchmark to compare an organization's digital maturity measure against industry best practices.

3. Methodology

The main contribution of this study is to presents a prediction model that could be useful for governments to discover the most effective World Bank indicators for getting a higher DXMI class to serve them as a base for a transition to a smart government. To prepare the reader, next section details the World Bank's GovTech dataset. After that, explain the proposed prediction system of assessing government's digital transformation mature class. Finally, explain the experimental results, discussion and analysis, and conclusion.

3.1. GovTech 2023 Dataset

In 2020, the World Bank Group (WBG) launched the GovTech Maturity Index (GTMI) [20]. GTMI is an overall index based on 48 main key indicators (with many sub indicators for each main key indicator) to assess the essential elements of four GovTech priorities in 198 economies. The purpose is to help advancing government systems, improving service delivery, embracing citizen engagement, and encouraging GovTech enablers. The GTMI was built largely using the World Bank's GovTech Dataset. The GTMI Report and GovTech dataset enable the identification of shortcomings in digital transformation through analyzing inconsistencies between economies and groupings of economies, and comprehensive tracking of improvements over time. We used the latest version of GovTech Dataset (March 2023) [21] to analyze the maturity of the world economies. To attain the GTMI, we applied AI algorithms to determine the most effective indicators. Examples of these indicators are listed in table 1. The economies are categorized based on the GovTech Maturity Index group into four classes of maturity as follows:

A: Very high >= 0.75

B: High >= 0.50 and < 0.75

C: Medium >= 0.25 and < 0.50

D: Low < 0.25

Table 1. Sample of the first three key and sub indicators for the maturity index out of 48 key indicators

GTMI	Description
I-1	Is there a government cloud platform?
I-1.4	Type of cloud platform established
I-1.6	Government Cloud data hosting policy?
I-1.7	Cloud services provided
I-1.8	Is there one shared Gov Cloud or several?
I-1.9	Monitoring and publishing of cloud usage?
I-2	Is there a Gov Enterprise Architecture?
I-2.4	GEA operational status
I-2.5	GEA scope > Is there a shared GEA?
I-2.6	Which entity is maintaining GEA?
I-2.7	Which entity is monitoring GEA compliance?

I-2.8	Monitoring and publishing of GEA usage?
I-3	Is there a Gov Interoperability Framework?
I-3.4	GIF operational status
I-3.5	GIF scope > Is there a shared GIF?
I-3.6	Is there a data quality framework?
I-3.7	Monitoring of the 'uptime' of gov info sys?
I-3.8	Guidance for replacing legacy gov info sys?
I-3.9	Monitoring and publishing of GIF usage?

3.2.Selecting the AI Technique

We begin by preparing the dataset like transforming the type of selected non-numeric attributes to a numeric type using the Nominal to Numerical operator in RapidMiner [22]. Then we used the replace missing values operator with average values also using RapidMiner. Figure 1 shows how the dataset was divided into training (70%) and test sets (30%). Cross-validation was used to estimate the statistical performance of the learning model by setting the k-folds to control the number of subsets. Accordingly, we use the automatic partitioning mode that uses stratified sampling to ensure that the class distribution in the partitioned subsets is approximately the same. Different AI techniques were used to create the prediction models. The purpose is to discover which AI technique is most effective in forecasting the GTMI best class. All indicators were considered equal and important when testing different AI techniques to choose the best AI technique that help predict the path of successful digital transformation using decision tree graphical representation later. Next, apply this technique to identify the best GTMI indications for a successful government DX. We applied different AI prediction algorithms on the GovTech dataset. The purpose is to create a model that can categorize every country into one of four digital transformation maturity classes (A, B, C, and D) based on the information provided by the GTMI 48 indicators and related sub indicators.

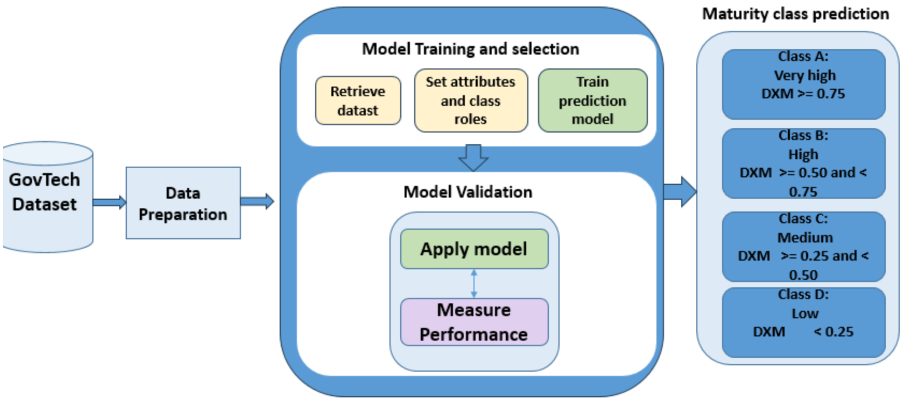

Figure 1. AI Prediction model development

Precision, recall, and accuracy [23] are measures typically used to assess the effectiveness of classification algorithms, particularly those employed in digital transformation for category prediction. Here is a quick explanation of these metrics:

Precision: Precision is the fraction of accurately predicted positive cases out of all positive instances forecasted. Precision in the context of category prediction for digital transformation would measure the model's accuracy in properly predicting the necessary categories. A high accuracy suggests that the model has a low false positive rate, implying that it correctly selects the relevant categories.

$$Precision = TP / (TP + FP) \quad (1)$$

Recall: The fraction of accurately anticipated positive cases out of all actual positive instances is measured by recall. In the context of digital transformation category prediction, recall would evaluate the model's capacity to collect all relevant categories. A high recall shows that the model has a low false negative rate, implying that it correctly identifies most of the relevant categories.

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$$\text{Recall} = \text{TP} / (\text{TP} + \text{FN}) \quad (2)$$

Accuracy: Accuracy gauges the model's overall accuracy, independent of class imbalance. It computes the percentage of accurately anticipated cases among all instances. In the context of digital transformation category prediction, accuracy would evaluate the model's overall effectiveness in predicting the proper categories.

$$\text{Accuracy} = \text{TP} + \text{TN} / (\text{TP} + \text{TN} + \text{FP} + \text{FN}) \quad (3)$$

Figure 2 denotes the decision tree performance in terms of accuracy in comparison to the other models. It illustrates as depicted by table 2 that decision tree predicts the maturity class with the highest accuracy (97.4%) when compared to the other prediction techniques. This can be explained by recalling that Gradient Boosted tree performs well on small, clean example sets, while showing sensitivity to complex models making it more vulnerable to overfitting. On the other hand, although random forests use ensembling and produce a larger number of decision trees to overcome overfitting, this makes random forests lose some level of transparency. Hence, decision trees are suitable for use when we are concerned with computational efficiency and have a small set of models. Thus, we conclude that decision tree is more interpretable, making it easier for the average user to understand. Generally, decision tree is suitable for classification and regression tasks [24]. For example, Decision trees show a great performance for banking sector secure transaction [25]. Decision trees use entropy (equation 4) and information gain (equation 5) to select the starting node as the root (weight GTMI indicators to choose the starting indicator as a root to work on to achieve) and then the best attribute for each succeeding node until it reaches the leaf node (selecting the next succeeding GTMI indicators to achieve for the purpose of reaching good GTMI maturity class). A successful pathway may be the one that leads from the root to the best leaf.

$$\text{Entropy}(\text{d}) = -\sum_{x \in X} p(x) \log_2 p(x) \quad (4)$$

Where d is the data set, the classes in the data set are represented by the variable X, and the percentage of data points in class X relative to all data points in the data set is denoted by p(x).

$$\text{Information Gain}(\text{X}, \text{a}) = \text{Entropy}(\text{X}) - \sum\nolimits_{\text{v} \in \text{values}(\text{a})} \frac{|\text{X}_\text{v}|}{|\text{X}|} \text{Entropy}(\text{X}_\text{v}) \quad (5)$$

Entropy(X) is the entropy of dataset X, | Xv |/ |X| indicates the ratio of the values in Xv to the total number of values in dataset X, and Entropy(Xv) is the entropy of dataset Xv, where a denotes a particular attribute or class label.

The second prediction model is a famous Gradient Boosted tree approach that came at the top constant in the M5 competition [26] and proves a superior performance especially for imbalanced data [27]. Gradient Boosted tree combine many weak individual decision trees to come up with one strong learner. The third prediction model is the Random forests, which are decision trees that expand in randomly selected data subspaces, can be used to build prediction ensembles [28]. Deep learning is an artificial neural network-based on machine learning concept [29]. Deep learning is utilized in a variety of prediction systems, including medical [30], agriculture [31], robotics [32], cost estimates [33], Social media analysis [34], digital transformation [29] and so on. Gain is calculated based on the costs for wrong predictions and benefits for positive prediction. Table 3 shows a comprehensive percentage of accuracy and recall for each class for each prediction method.

Table 2. GTMI accuracy for each prediction model

Model	**Accuracy**	**Gains**	**Total Time (ms)**	**Training Time (1,000 Rows)**	**Scoring Time (1,000 Rows)**
Decision Tree	97.4%	154	50770	532.8	2917.7
Gradient Boosted Trees	96.5%	150	259830	6275.3	4493.7
Random Forest	92.9%	140	94156	1169.2	6348.1
Deep Learning	87.4%	130	97317	6878.8	5924.1

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Generalized Linear Model	86.6%	128	59765	4419.2	3778.5

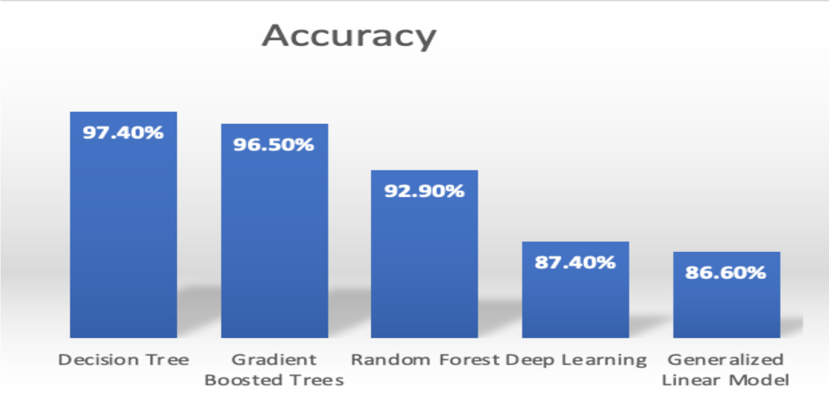

Figure 2. Decision tree performances compared to other prediction models in terms of accuracy

Table 3. GTMI class precision and recall per prediction model

Model	**Precision**				**Recall**			
	pred. A	**pred. B**	**pred. C**	**pred. D**	**pred. A**	**pred. B**	**pred. C**	**pred. D**
Decision Tree	100	96.8	94.2	100	96.6	93.9	100	100.
Gradient Boosted Trees	100	96.6	94.2	94.1	96.8	93.5	97	100
Random Forest	93.3	89.6	92.1	100	90.3	92.8	100	84.2
Deep Learning	91.1	92.8	78.3	92.3	93.9	86.6	96.6	63.1
Generalized Linear Model	88.8	88.8	83.3	84.2	96.9	80	83.3	84.2

Figure 3 and figure 4 respectively show the precision and recall of the GTMI four classes for each AI method. Precision, recall, and accuracy are interrelated but emphasis on various characteristics of model performance. Different indicators may be prioritized depending on the unique aims and needs of the digital transformation category prediction task. Precision, for example, may be the key parameter of importance if the objective is to limit false positives. Recall, on the other hand, may be favored if obtaining all relevant categories is critical. In circumstances with unbalanced class distributions, accuracy gives a generic measure of overall correctness but may not be the most revealing statistic.

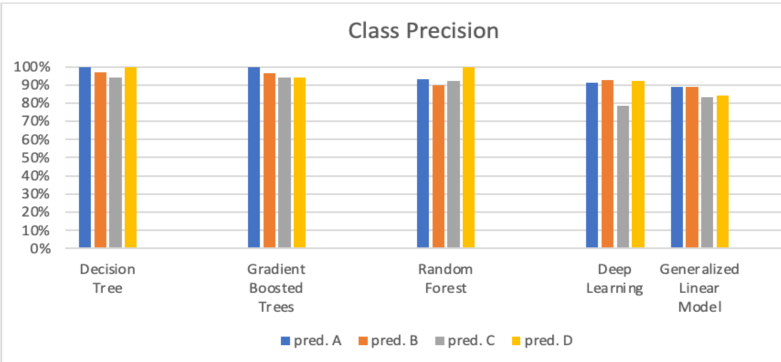

Figure 3. GTMI Four classes precision

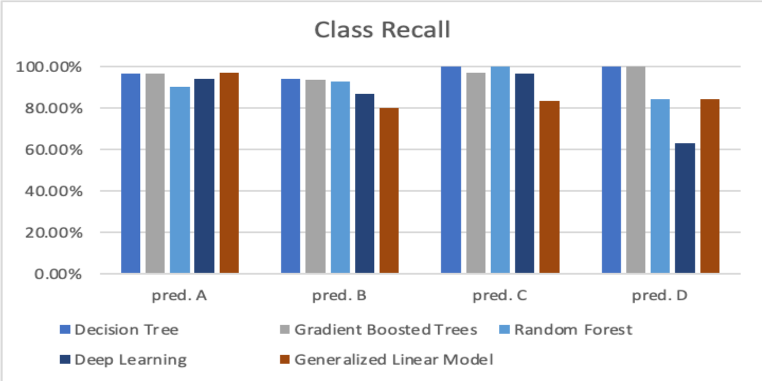

Figure 4. GTMI Four classes Recall

4. Decision Trees Implementation Results

Based on the results of experiments and prediction accuracy proven by the previous section, decision trees prediction model is selected as it outperforms the other AI techniques and was the first of the top three algorithms. Figure 5 displays the screen of decision trees performance.

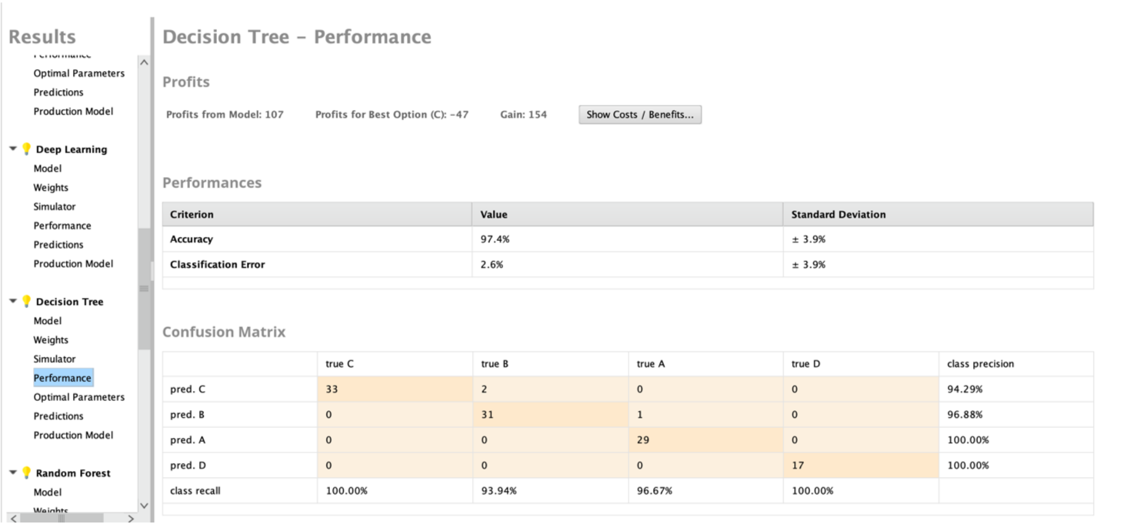

Figure 5. Decision trees performance: snapshot of experiment

When the decision tree method is implemented, it produced the prediction tree shown in figure 6. The indicator I-18 (UN Online Service Index OSI) serves as the tree's root. The UN Online Service Index (OSI) is a metric used to assess nations' progress in digital transformation initiatives. It evaluates the availability and quality of online government services such as e-government, e-participation, and e-commerce. The OSI has various implications for digital transformation. For instance, The OSI provides a baseline for benchmarking against which countries may assess their progress in digital transformation. This enables governments to identify areas for improvement while also learning from best practices applied in other nations. Due to its importance, several studies have examined the importance of this indicator and studied the factors for its success to ensure progress in world ranking improvements based on this indicator [35], [36]. Furthermore, the OSI may help policymakers by exposing areas where countries lag in providing e-services. The index may be used by governments to detect gaps and create plans and activities to improve their digital transformation.

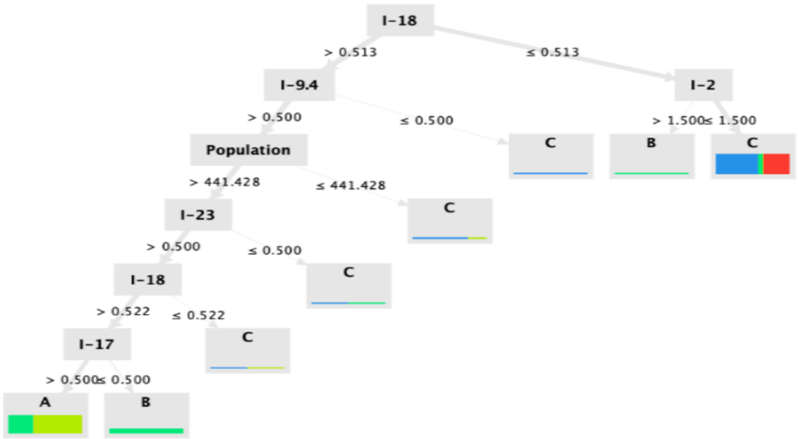

Figure 6. Maturity class prediction tree

In addition, by highlighting nations that have achieved considerable progress in digital transformation, the OSI can influence investment decisions. Countries with better OSI rankings are more likely to attract investment in the digital industry, resulting in additional technological and innovation breakthroughs. Finally, the OSI can help nations at different phases of digital transformation collaborate and share information. Higher-ranking nations can share their expertise, best practices and provide guidance with lower-ranking countries who are still establishing their e-service provision. Another potential collaboration is by sharing technology and infrastructure. The more digitally mature countries offer to provide technical assistance, software and hardware to support the digital transformation of their less mature counterparts. Moreover, to reduce costs, counterpart countries can also cooperate and adopt a collaborative purchasing methodology for shared digital platforms and services. The most importantly, capacity building and training, whereby countries that are more digitally mature can help close the digital divide by providing training, workshops, and skills development programs to build the digital capabilities of their less mature counterparts. This helps address the talent gap and ensure sustainable digital transformation.

Furthermore, the AI prediction model presented in this study confirms that highlighting the following three essential indicators of modernizing the public sector is necessary for a successful digital transformation of government: 1) a comprehensive strategy for digital government transformation, 2) universally accessible citizen-centric public services, 3) and straightforward, effective, and transparent government systems [37]. To explain that, a whole-of-government approach to public sector digital transformation should involves a comprehensive and collaborative effort from all government agencies and departments to harness digital technology and data for improved service delivery, efficiency, and citizen participation. This strategy can simplify operations, reduce costs, and improve decision-making based on data. In addition, it can increase citizen engagement and participation by making digital platforms more accessible and user-friendly. Additionally, this strategy can improve cyber security and data privacy by implementing strong data governance structures and rules.

Likewise, understanding the need for change [38] and transparency in digital transformation progression are key characteristics of successful digital transformation. Governments and organizations may demonstrate their commitment to transparency and accountability by releasing frequent updates on the status of digital transformation programs. This can assist to develop confidence among citizens and ensure that efforts are efficiently implemented. The transformation progress reports can motivate the beneficiaries to support the digital change, help stakeholders stay informed, engage, and drive innovation. The progress reports also serve as a baseline for benchmarking against industry standards. Positive progress reports can enhance reputation as a leader in digital transformation and thus attract investment and talent. Publicizing the development of digital transformation programs helps highlight beneficial results and achievements. This can assist in recognizing the work of people and teams participating in the projects, as well as motivating more innovation and cooperation. The publication of progress reports has the potential to impact public opinion and the reputation of organizations and government bodies.

5. Conclusion

Digital transformation helps governments improve their efforts to provide services to beneficiaries around the clock. However, governments must consider the potential disadvantages of unplanned digital transformation. For example, governments possess vast amounts of sensitive citizen data, making them prime targets for cyberattacks. Inadequate cybersecurity can expose citizens' data, make them vulnerable to hacking, and facilitate the disruption of essential public services. Data privacy and security risks are a concern, which necessitates digital security measures. Also, as a result of not properly planning for digital transformation, updating old IT systems, training employees, and implementing new digital platforms can be very costly for governments with limited budgets. Hence, the cost of setting up and maintaining the technology can be high, necessitating a balance between financial benefits and costs. In addition, a lack of awareness of the importance of digital transformation may be faced by a resistance to change, as government employees and the general public may be reluctant to adopt new digital technologies, which hinders the success of transformation efforts. Additionally, as a result of the greater goal of digital transformation in unifying data sources, achieving seamless digital integration and sharing of data across isolated government departments and agencies can constitute a major challenge, which may cast doubt on the benefits of digital transformation to the public. Furthermore, emerging technologies such as AI can provide personalized services but cannot replace face-to-face interactions. Given these challenges, it is important to work on planned digital transformation and prioritize beneficiaries' needs to enhance the digital transformation. The GTMI examined in this study provides a systematic framework for governments to assess their digital transformation and plan a successful digital transformation.

This study proposed using AI prediction model based on decision trees algorithm to chart a path for a mature digital transformation. Accordingly, governments must prioritize the development of explainable AI systems to ensure that their digital transformation efforts are transparent, accountable, and aligned with the public interest. This is crucial to maintaining citizens' trust and upholding the principles of good governance. Otherwise, the rationale behind the government's decisions will be considered opaque. Decision trees could suffer from the overfitting problem therefore future work suggests focus on using improved AI techniques such as combining deep learning (performance) with decision trees (easiness to understand through graph representation) to improve digital transformation prediction of readiness. Accordingly, it will foster accuracy with interpretability, especially when using AI in government environments where transparency is critical.

Policymakers and digital transformation experts can use the proposed prediction model to assess their government's maturity and readiness for successful digital transformation. A decision tree gives the path from the root to the leaves. So that these experts can better interpret the GTMI indicators and work towards achieving them. They may face many challenges depending on the size and resources of their economy. They can then benefit from cooperation with higher-ranking countries. Overall, governments can successfully navigate the digital transformation process and deliver a better user experience by addressing these common issues that all governments may face regardless of their size and economic status and putting the solutions presented in table 4 into practice. Further research should focus on how the proposed prediction model applies to governments of different sizes and resources and how to measure these results for smaller or less developed economies.

Table 4. DX challenges and proposed solutions

#	DX challenges	proposed solutions
1	Change resistance: Some managers and employees may be reluctant to adopt new technology or procedures, which may hinder or delay the digital transformation process.	Government awareness programs on the importance of digital transformation and preparing the necessary courses to provide individuals and employees with training and assistance to help them adapt to new technology and procedures.
2	Inadequate funding: Introducing new technology and educating staff and citizens may be costly, especially for governments with limited resources.	Identify financing priorities for digital transformation programs and explore collaborations with industry and peer-government to gain or share extra resources.
3	Concerns about data privacy and security: As more data is gathered and kept digitally, the potential of data breaches and cyber assaults increases.	Implement strong data privacy and security standards, such as frequent security audits and best practice training for staff and individuals.

4	Inequitable access to technology and digital resources: Not all individuals have equal access to technology and digital resources, which can lead to inequities in getting the proper services.	Provide alternate and affordable resources for personnel who may not have access to technology to provide accessibility for all especially those with disabilities.

This study also found some limitations for the GTMI. 1) The indicator focuses on quantitative measures, and neglects qualitative components such as cultural and behavioral changes. 2) GTMI does not think about future disruptions and rapid emerging technologies. Therefore, future work should examine the need for governments to embrace forward-thinking digital transformation methodologies while considering factors such as cultural and behavioral changes, future disruptions and emerging technologies.

6. Declarations

6.1. Author Contributions

Conceptualization: Y.A.; Methodology: Y.A.; Software: Y.A.; Validation: Y.A.; Formal Analysis: Y.A.; Investigation: Y.A.; Resources: Y.A.; Data Curation: Y.A.; Writing Original Draft Preparation: Y.A.; Writing Review and Editing: Y.A.; Visualization: Y.A. All authors have read and agreed to the published version of the manuscript.

6.2. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

6.3. Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

6.4. Institutional Review Board Statement

Not applicable.

6.5. Informed Consent Statement

Not applicable.

6.6. Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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