Predicted Data Analysis Report

(2020-2050)

India is a young country with a median age of 28 in 2020. It has an opportunity to drive economic growth on the back of its rising working-age population (those aged 20 - 59). The nation is expected to add almost 10-11 million people (according to the predictions made by the model and previous years population growth history) to its workforce every year over the next three decades (2020-2050), with the working-age population crossing the 800 million mark by 2030. With greater access to information and growing aspirations among the nation’s youth, the quality of employment that India provides will prove as crucial as the quantity.

The four major aspects India needs to ***invest*** in are Infrastructure, Healthcare, Education and Employment.

* **Infrastructure:**

The infrastructure is important for faster economic growth and alleviation of poverty in the country. The adequate infrastructure in the form of road and railway transport system, ports, power, airports and their efficient working is also needed for integration of the Indian economy with other economies of the world. For example: railways, communication and power supply.

* **Healthcare:**

Health facilities often struggle to provide the rapid emergency care needed to manage maternal complications and care for the sick and ailing. Common causes include inadequate or unhygienic infrastructure; lack of competent, motivated staff; lack of availability or poor quality of medicines; poor compliance to evidence-based clinical interventions and practices; and poor documentation and use of information. Improving quality of care and patient safety are therefore critical if we want to accelerate the life expectancy in the country.

* **Education:**

Education is very essential for eradicating poverty as it makes people more productive and earn a better living. Through education people become more responsible and informed citizens, and have a role in politics and society.

* **Employment:**

Job creation must become an overarching goal for the government along with economic growth. As mentioned earlier, every year around 10-11 million Indians get added to the working category age group. For the country to grow and do well financially there have to be adequate number of jobs created for all these people who are being added to the working class.

**Impact of Longevity (Life Expectancy)**

Life expectancy in India is expected to reach about 76-77 years by the end of 2050. This means the people would have a larger life span than before which translates into fewer deaths and more consumption of resources. Longevity presents economic, social and health challenges especially in our country whose population increases by 1% on an annual basis. Measures need to be taken to meet the demands of the people and improve the quality of life as well along with the improving quantity of life.

**Methodology used for Prediction of Data from 2020-2050:**

**FORECAST.ETS function:**

* Calculates / predicts a future value based on existing (historical) values by using the AAA version of the *Exponential Smoothing (ETS)* algorithm. The predicted value is a continuation of the historical values in the specified target date, which should be a continuation of the timeline.

This function requires the timeline to be organized with a constant step between the different points.

* Syntax:

FORECAST.ETS (target\_date, values, timeline, [seasonality], [data completion], [aggregation])

* Where the function arguments are:

*Target\_date* – a date/time for which you want to predict a value. For example - 2030

*Values* – the array of historical known values for which you want to forecast the next point. For example – median age of country values from year 2000 to 2010

*Timeline* – the independent array of dates/times corresponding to each of the values. For example – the years array (200-2010) for which you have supplied the median age values.

*Seasonality* – indicates algorithm that should be used to detect seasonality in data

*Data completion* – specifies how the algorithm should handle the missing points in the timeline

*Aggregation* – specifies how the algorithm should aggregate values that have the same timestamp.

**FORECAST.LINEAR function:**

* Calculates / predicts a future value by using existing values of the dataset. The future value is a y-value for a given x-value. The existing values are known x-values and y-values, and the future value is predicted by using *linear regression.*
* Syntax:

FORECAST.LINEAR(x, known\_y's, known\_x's)

* Where the function arguments are:

*x* - A numeric x value for which you want to forecast a new value.

For example: 2050

*Known \_y’s* – An array of known y values. For example: Known Population array of year 2000 to 2015.

*Known \_x’s* – An array of known x values. For example: Known Year array of 2000 to 2015 for which population data is filled in Known \_y’s.

* Linear Forecast Equation

The FORECAST.LINEAR Function calculates a new y-value using the simple straight line equation:

Straight Line Equation

where,

Equation for the intercept of a linear regression line

and

Equation for the slope of a linear regression line

and the values of   x   and   y   are the sample means (the averages) of the known x- and the known y-values.

**Conclusion**

This data teaches me that India is a country with a predominantly young population who could fulfil demands for skilled individuals worldwide. However, India risks squandering this demographic opportunity if it cannot create quality employment opportunities at scale and train its growing workforce to excel in those jobs. Extensive measures will also need to be taken to improve and upkeep the standards of infrastructure, healthcare, education and employment for a bright and amazing future of India.

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