

## - Episode 42 –

### AI and Public Sector Application

For the people, by the people!

---

Script : Hemant Lagvankar

Concept and Coordination : Dr. B. K. Tyagi

*Digital transformation is now becoming a necessity in public sector. Artificial intelligence (AI) and related technologies have the potential to solve many of the problems which revenue and finance agencies face. By optimizing processes, they can make public finance management systems and tax administration more efficient. AI can also be used to predict corruption and spot the frauds. AI-enabled technologies give a clear picture of things like, where money is being spent, where goods are being moved and how transactions are being done.*

*However, digital transformation is not just about new technologies, but requires an overhaul of organizational structures, governance, work processes, culture and mindset.*

*This episode describes how AI technology help to improve public sector applications and what is the role of public in making its implementation successful.*

#### List of Characters :

**Mrs. Nandini :** A housewife (age about 45 years)

**Mr. Shekhar :** Husband of Nandini (age about 50 years)

**Shreyas :** Son of Nandini and Shekhar (age about 18 years)

**DP :** Short form for Gas cylinder delivery person (age about 35 years)

*(A person who delivers gas cylinders is loading and unloading the tempo with cylinders. Sounds of loading and unloading of the cylinders are heard. Nandini is watching it from her home and she is calling that person. In between the communication is in Hindi.)*

**Nandini :** Hello.... O, Babu....

**DP :** Ji, Behen ji!

**Nandini :** May I get the cylinder?

**DP :** Behen ji, aapka number kya hai?

**Nandini :** Which number?

**DP :** Please wait.... I will come there! *(Sound of keeping empty cylinder in the tempo)*

**Nandini :** Thik hai!

**DP :** Haa, Behen ji... Kahiye!

**Nandini :** Do you have an 'extra cylinder'?

**DP :** Extra cylinder?

**Nandini :** Yes! Because I have not placed an order for the cylinder.

**DP :** So, Behen ji, how can I give you the cylinder? Without order!

**Nandini :** Aare Bhai, I always place the order before the gas cylinder is consumed completely.... But this time, I forgot and now the cylinder is finished...

**DP :** So please place the order now!

**Nandini :** Yes, I will do that, but it will take a few days to get cylinder after placing an order!

**DP :** Yes! At least 4 to 5 days! Lot of people are waiting for the cylinder!

**Nandini :** Hmmm... How can we wait for 4 – 5 days?

**DP :** So?

**Nandini :** If I pay you hundred rupees more, can I get the cylinder?

**DP :** I am sorry Behen ji...

**Nandini :** Why are you saying sorry? You are not getting my point. I will give you hundred rupees extra..... you can give me the cylinder now and I will place the order!

**DP :** *(In irritating voice)* I cannot do like that! And don't try to bribe me.

**Nandini :** I am not bribing!

**DP :** *(Loudly with anger)* Then what else you are doing? What do you feel, you can do anything with the money which you have?

**Nandini :** *(Loudly)* Are you alleging me?

**DP :** Madam, it will cost my job! I cannot take such money from you. Now everything is computerized.

**Nandini :** I know, one can make necessary changes in computer data! If you want more, I can give one hundred and fifty rupees.... Final!

**DP :** *(Loudly in irritated voice)* Are you joking... or kidding?

*(Shekhar comes out by hearing conversation in loud voice)*

**Shekhar :** What happened Nandini? What's going on?

**Nandini :** Nothing serious Shekhar!

**Shekhar :** Then why are you shouting on this delivery person?

**DP :** Sir, please tell your wife... I may not be rich like you, but –

**Shekhar :** Okay...okay! Sorry from our side.

**DP :** This is the only word which helps you covering your mistakes! Please don't repeat this kind of mistake with anybody! Good bye!

*(Delivery person goes away. Sound of shutting the door is heard)*

**Shekhar :** Nandini, I don't understand why are you keeps on debating with such people unnecessary!

**Nandini :** *(In anger)* Unnecessary? How can you understand my problems! You are getting the meals timely... but have you thought about which difficulties I am facing?

**Shekhar :** Nandini, I can understand. But this is not the way to solve the problems!

**Nandini :** Okay, then you solve my problem! The gas cylinder in home is finished. Get the cylinder now... otherwise you will not get meals today!

**Shekhar :** Come on Nandini! It is purely a negligence from your side and you are just arguing with that poor fellow!

**Nandini :** Arguing? I have offered him one hundred fifty rupees extra!

**Shekhar :** It is called 'bribing' Nandini!

**Nandini :** Now you are taking his side!

**Shekhar :** Nandini, this is not a question of taking someone's side. It's a corruption! And I can not take side of corruption!

*(At this time, Shreyas comes from inside room)*

**Shreyas :** Corruption? In our home!

**Nandini :** Shreyas, your dad is a saint! I was just asking for the cylinder –

**Shekhar :** Nandini, don't tell the half truth. And don't justify your act. You also very well know that whatever you were doing was wrong.

**Nandini :** Shekhar, please don't put your words on me!

**Shreyas :** Mom, Dad.... Will you please let me know exactly what has happened?

**Shekhar :** Shreyas, your Mom was trying to get a gas cylinder by giving bribe!

**Nandini :** Bribe?

**Shekhar :** Yes! We call it as 'bribe' only!

**Shreyas :** Mom?

**Nandini :** Hmm... I know, you also take side of Shekhar! If I offer some money to someone is 'bribe' and those so called high class people if offer something then it is a 'gift of appreciation'!

**Shreyas :** Mom, I think you are diverting the topic.

**Shekhar :** Absolutely!

**Shreyas :** Mom, let's be serious! To my opinion that person... who was delivering the cylinder was hundred percent correct!

**Nandini :** That means, I am wrong!

**Shreyas :** Yes! That is also hundred percent! *(laughs)*

**Nandini :** Hmm.... Just wait for some time. When you both felt hungry, then I will tell you who is correct and who is wrong.... Hundred per cent!

**Shekhar :** Nandini, try to understand.... the world is changing! And we also have to change.... Otherwise, we will be outdated!

**Shreyas :** So Mom, that person was saying right! Now we have to leave all these malpractices.

**Shekhar :** Correct! Such malpractices appear small initially, but ultimately they become bigger and bigger.... Sometimes larger than life!

**Shreyas :** That's why Government is now trying to curb such activities.

**Nandini :** How? You can shut up my mouth, but how can you control such activities in entire nation of one hundred thirty five crore population?

**Shreyas :** Technology.... Mom, by means of technology! It is possible to track and avoid such malpractices at every level by using artificial intelligence.

**Nandini :** Artificial intelligence?

**Shreyas :** Yes, Mom!

**Nandini :** Is it possible? And How?

**Shreyas :** Mom, it's reality now! I can give you simple example.

**Nandini :** Which one?

**Shreyas :** Mom, every time when you type on your smartphone, the smartphone makes a clever prediction on what you will type the next. It is the artificial intelligence at work, learning from your past sentences.

**Nandini :** Yes!

**Shreyas :** Not only that Mom, the system also keeps on improving its predictive abilities along the way.

**Shekhar :** Absolutely! The artificial intelligence is in our hands now! We are using it!

**Shreyas :** So, everything is possible... rather I can say, nothing is impossible! Mom, the days are not too far when the smartphone of a farmer in our country will not only track the weather forecasts, but perhaps advise him on the next best action to be taken if the weather turns inclement. It might even go a step ahead and help him make a decision on locking up the best future price for his produce. A smart fishing app will learn from the past performance of fishing trips on the high seas to guide our fishermen on improving their catch. An intelligent learning app will coach our students to cope better for competitive examinations by tracking their past records and abilities!

**Nandini :** Ohhhh....

**Shreyas :** The list is endless, Mom!

**Shekhar :** But Nandini, remember this will be an eye opener for those who are involved in malpractices, particularly in the systems which decide the fate of the country.

**Nandini :** Means?

**Shekhar :** It means the artificial intelligence will now play a major role in public sector. A clever tax collection app will help the government detect sophisticated methods of tax evasion while a subsidy app will better target benefits to those who need them the most, helping plug leakages. And there is a need of times for delivering the best to the people in the country.

**Shreyas :** It will definitely become a reality in the next decade considering the recent advances in artificial intelligence.

**Shekhar :** Shreyas, in other countries artificial intelligence is now being used for disbursement as well as to control leakages in subsidies and welfare payments. Artificial intelligence is being used for faster and more effective processing of welfare payments to beneficiaries. Artificial intelligence algorithms are being tested to track down large-scale corruptions in welfare programmes.

**Nandini :** But will it take place in our country?

**Shreyas :** Why not?

**Shekhar :** Nandini, we have already started it through the flagship initiatives like ‘Make in India’, ‘Skill India’, and ‘Digital India’. These will be impacted by the recent advances in artificial intelligence, making it imperative for Indian policymakers to take both an immediate and a long-term view.

**Shreyas :** Dad, our government is working hard on e-governance, right?

**Shekhar :** Yes! The Central Board of Direct Taxes that is “CBDT” has recently notified a shift in the technology for assessment of tax returns online. With an artificial technology driven scheme namely ‘E-assessment Scheme 2019’ of the tax department, the government has now initiated for speedier processing of tax e-returns online rather than keeping it to multiple – lagging stages of manual assessment.

**Shreyas :** Ohhh.... That’s great!

**Shekhar :** The e-assessment process will be completely technology-driven with the use of data analytics, machine learning, and artificial intelligence, and all compact tools for determining misreporting or evasion of tax rules.

**Nandini :** I am not getting what you are talking about. Tell me in simplified language, without using all these technological words.

**Shekhar :** Okay! (*laughs*)

**Shreyas :** Mom, I will explain you. Dad is saying that, with this e-assessment system, the person paying tax would not be required to move around tax offices for submitting

the requested scrutiny information. The taxpayer will be issued a notice through a common assessment portal which is also accessible through a mobile app. The app or the portal will update in real-time the progress of the case with department that is, the response submitted to the notice, the action on response submitted, etc.

**Nandini :** Okay! I understood. The government should also use this technology for detecting tax frauds.

**Shekhar :** Yes, absolutely Nandini. Artificial intelligence will be used to detect tax frauds, preventing subsidy leakage, and targeting beneficiaries. We are definitely moving towards it and the first step for it is data collection and analysis. It would be impossible for a human to analyze thousands of pages of this data without error. Because revenue agencies face the arduous task of collecting volumes of information from and about taxpayers.

**Nandini :** But how is it possible?

**Shreyas :** Artificial intelligence enabled technologies will help people to get better services and justice for the taxes they pay. They also identify risks, calculate taxes, monitor tax collections, verify tax returns and address tax queries. But artificial intelligence enabled technologies can help these revenue agencies to do more and more of their communication with taxpayers using digital platforms. This will give citizens the fast, and convenient experience.

**Nandini :** Hmmmm....

**Shreyas :** Mom, by analyzing this huge data collected, it is possible to detect malpractices and also it is possible to use money in proper manner using artificial intelligence.

**Shekhar :** That's what precisely that person who was delivering cylinder, was saying. He told that it is not now possible to do any malpractices now. This is because, now the entire system is governed by the digital technology. Subsidy of the gas cylinder is also getting directly credited to the bank accounts of the customers. So there is a watch on every act where money is involved.

**Shreyas :** And there are other sectors also where government is giving subsidies.

**Shekhar :** Yes, Shreyas!

**Nandini :** In which sectors government is giving subsidy?

**Shekhar :** There are many sectors apart from this cooking gas in which we get subsidized products. Our government is giving subsidy on all petroleum products, that is petrol, diesel, CNG, LPG... Government is giving subsidized food grains such as rice, wheat, cereals...

**Shekhar :** And also on fertilizers!

**Shekhar :** Yes, government is giving subsidy to farmers on fertilizers and pesticides. Also, subsidy is given to set up solar energy lights, pumps, etc. in rural areas.

**Nandini :** It means it covers almost all essential sectors required to live life properly.

- Shekhar :** Yes, you are right Nandini! And hence, it is important to manage the distribution of all these subsidies.
- Shreyas :** It's really a huge task, Dad!
- Shekhar :** Yes! Currently fertilizer subsidy accounts for 0.8 % of the GDP. At present the subsidy is divided into two types depending on different types of fertilizer. Urea is provided at a lower cost to the farmer, while for NPK fertilizer subsidy is provided to the manufacturers based on the nutrient content that is, Nitrogen, Potassium and Phosphate. Considering the massive expenditure on the subsidy, it is imperative that the subsidy disbursement is managed well.
- Shreyas :** Dad, it means not only distribution but calculation of subsidy is also a mammoth task, as lot of parameters are involved in it.
- Shekhar :** Yes, absolutely. Calculation of the fertilizer requirement is a mammoth task which requires the computation of various climatic, environmental, policy and price metrics involving both the Central and State Governments as well as fertilizer manufacturers and importers.
- Nandini :** From your discussion, I felt that without technology, it is not possible at all.
- Shekhar :** No, not like that, Nandini! These subsidies are being given since last so many years. However, there are many loopholes and leakages. Now, technology will help in overcoming these problems and utilizing the public money effectively.
- Shreyas :** In this case artificial intelligence is like a boon!
- Shekhar :** Yes, artificial intelligence based systems can support the management in assessing the requirement for fertilizers at a district level. In order to create more efficiency and accuracy in the system, artificial intelligence based tools could be used as this whole process requires consideration of multiple factors as well as coordination with multiple stakeholders.
- Nandini :** But how is it possible actually to carry out such a complicated process?
- Shekhar :** All the required metrics can be fed into the proposed artificial intelligence systems, which can provide the fertilizer requirement monthly as well as district wise while reducing man hours and increasing granularity as well as accuracy. After setting district wise requirement, it will be also be easier to manage the freight subsidy which is provided to companies for transporting fertilizer to the last mile.
- Nandini :** Great!
- Shekhar :** Actually, there are about thirty Central Government schemes and innumerable State level schemes in our country. Monitoring and evaluation of these schemes especially in the remote areas of the country could be carried out through artificial intelligence based tools of geo-spatial visual and image recognition.
- Shreyas :** Yes, artificial intelligence based systems are best suited to such streamline operations which are multi varied in nature and spread geographically and administratively. Subsidy disbursements and management is a field which can benefit from the new technology.

- Shekhar :** To build a public sector that is fit for the future, government must reinvent itself. Digital transformation is not just about new technologies, but requires an overhaul of organizational structures, governance, work processes, culture and mindset. It also means realizing a wider vision of relationships and business models that will redesign how public services function. Only then government will capture the wider benefits that digital transformation can bring to people and society.
- Shreyas :** So, it means, for the successful execution of technology, active support from the public is equally important.
- Shekhar :** Yes, Shreyas you are absolutely correct! And it's good that you are well aware about this frontline career option. Now, our government is also promoting for the start-ups and development of artificial intelligence based systems which can help in public services sector.
- Shreyas :** Yes, Dad! I am keeping eyes on these technologies and have decided to work in this field only.
- Nandini :** That's fine, but I neither have a gas cylinder nor sufficient time for preparing the lunch now! So you need to decide about one more thing now.
- Shreyas :** About which thing?
- Nandini :** About the lunch!
- Shekhar :** No problem, Nandini! Today we will go in restaurant.
- Shreyas :** Ohhh.... then I will become ready immediately.
- Nandini :** I also immediately place the order for the gas cylinder!
- Shekhar :** Great! The discussion was fruitful, it seems!

*(All laugh)*

*(Music piece. Episode ends)*