

1) Sports analytics is gradually gaining prominence for the last decade. Cricket is no different and platforms like CricInfo and other online gaming platforms have become popular in recent times. Explain using examples, an use case of descriptive, diagnostic, predictive and prescriptive analytics, if you were a manager for a cricket team, and you would use the data provided in these platforms.

Descriptive: Say playerwise batting stats like batting average in country, batting out of country, number of 50s/100s in last 20 matches, Standard deviation of performance in country vs out of country, batting average in different positions, etc

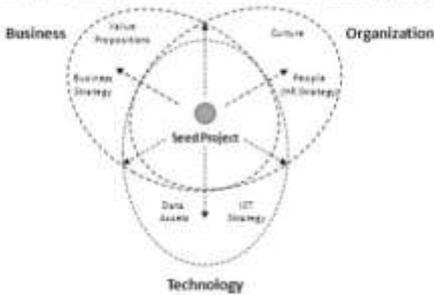
Diagnostic: When the batsman gets out (catch out, stumped), which type of bowler balls and in which type of pitch, weather conditions, etc. Batsman getting out is the dependent / categorical variable.

Prescriptive: When a team wins in country / overseas, what is the combination of players, e.g. number of variation among bowlers (fast/spin), type of wicket keeper (only WK or batsman), number and type of batsmen, etc.

Predictive: Who are the possible batsmen who may do well, in a particular type of opponent? Which batsman is like to score well in the next match based on current form, past stats, bowlers in opponent team, pitch type, environment type?

2) Refer to how Covid-19 has accelerated digital transformation, but may have made it harder not easier. You want to digitise your business which caters to customer's orders on specialised services for households during covid when physical experiences like shopping got restricted. Due to the nature of your business, you end up collecting a huge amount of data. Digital transformation will enable you to use analytics for mining this data very effectively. So before going digital so that you can exploit your information assets, what considerations should you have for taking this initiative to the next step.

Figure 1: Seeding Analytics Capabilities in the Business-Organization-Technology Ecosystem



This framework needs to be used and your main answer needs to be mapped to the BTO framework. Talk about possible initiatives from business strategy, then organization and technology, that needs integration with an example of a firm. Talk about generation, trading, distribution and sales through use cases.

Also additionally you may discuss about how DT needs measurable realistic factors, management and governance issues, focus on inclusive and sustainable practices, etc

3) You are already a student of IITD for some time now. How do you think all the IT projects would be managed in IITD? How mature are we in managing our IT infrastructure? Give examples for justifying your answer.

Factor	Maturity Stage		
	Defined	Managed	Synchronized
Advanced Valuation			Inclusion of qualitative option value in funding decisions; monitoring of projects' realized value in deployment.
Feedback Mechanism			Feedback on IT alignment with strategy → some cards evaluate each project.
Benefits Measurement			Tracking of project benefits after project development is complete; measurement of IT value through the full project life cycle.
Active Portfolio Management			Understanding of risk and return → portfolio weighted accordingly.
Strategic Alignment		Annual review sessions between business-unit heads and IT to discuss IT and strategy alignment.	Frequent review sessions with business unit to discuss strategy alignment quarterly or monthly.
Financial Metrics		Use of financial metrics in prioritizing: ROI, RDI, IRI.	
Demand Management		Well-defined scheme for screening, categorizing and prioritizing projects; portfolio management approach to seek projects for investments.	
Centralization	All projects in one database; all IT spending tracked centrally and input into one database; centralized project office monitors projects.		Use of portfolio software → real-time updates on portfolio modifications, performance and health.
Standardization	Applications and infrastructure are well defined and documented.	IT portfolio segmented by asset classes → for example, infrastructure, strategic projects.	

Using this framework, you can justify if IITD falls in the Adhoc, defined, managed or synchronised stage of maturity in the IT portfolio management framework. Justifications are important here. How does IITD fall in a particular group? How can action items be planned so that it may migrate to a different level of maturity?