

HANDS ON BUSINESS ANALYTICAL TOOLS USING **CASELETS: A REPORT**

DAY 1

3rd and 4th of September, 2019 were quite distinctive as they were adorned with invigorating and insightful deliveries by some of the most eminent and highbrow delegates who graced the students of Amity Business School with their presence. The event, that radiated with beams of delight, as well as, audacious cognizance, was helmed by Dr. Sanjeev Bansal (Dean FMS , Director ABS) himself alongside some of the faculty members with ample academic realization.

The event kicked off with an interesting inaugural session by Dr. Sanjeev Bansal doing the honors and was further steered forward by the first intellectual, Dr. B.B. Singh. He is deemed as one of the most pivotal members of the prestigious establishment, the Inferential Survey Statistics and Research Foundation. Dr. B.B. Singh is the director and the CEO of this pristine founding.

Saplings were handed over as Dr. Sanjeev Bansal delivered brief and ramified remarks on mathematical statistics and analytics. He pointed out the various underlying degrees of the event. Dr. B.B. Singh was the first one to approach the dais after Dr. Sanjeev Bansal's enlightening the students. He allowed his meritorious giving to take flight as he thanked each and every one present inside the room. After doing so, he talked about the various analytical tools and shed light on their existence. He stated that such tools have got the thundering impetus to share knowledge in abundance as they dabble between sharing powerful dialogues and imparting the right influence of conduct. He said that in a rapidly changing environment, data stands dynamic. Every inch of a data is intrepid and bold enough to change the face of probably everything. The concept of data was broken down that involved a motley of components, mainly, information, knowledge, planning, and execution. Dr. B.B. Singh then conjured up a very precise and salient instance of health that dealt with the cocoons of statistics. He very well emancipated the true meaning of 'business analytics' by informing that business analytics is the branch of analysis that pertains to developing a business and a robust pillar to various decision making processes.

After Dr. B.B. Singh stepped down the rostrum succeeding a delectable conveyance of verbose, the very next speaker, Dr. A.K. Chaubey emerged with his overt jovial disposition and a sea of ideas. He valiantly holds a degree of M.Sc. in Statistics and Ph.D. in Agricultural Statistics. He embedded the seeds of comprehension in everyone's mind by introducing the concept of Business Analytics that housed a variegated spectrum of subjects like information value chain, business intelligence, big data and analytics etc. He succinctly laid down the processes of business analytics with the help of a case study. The case study limned an organizational approach to product development and provision of services. The case emanated both primary and secondary data that had various statistical tools exercised upon them. The case study developed

into unfolding an envelope of tools that embraced the likes of data mining, data analysis, data warehousing amongst many. Another telling topic covered by Dr. A.K. Chaubey was the paradigm shift in IT. It grasped the modern day narrative of IT scenario with respect to management systems and analytical tools. It was then made obvious the mechanisms of various processing tools like the ER Processing, also known as Transaction Processing, Credit Transfers, etc. A plethora of business intelligence cadres were also introduced like data management, model management, data modeling to name a few. Dr.A.K. Chaubey lured the participants into another appetizing portal of erudition, the subject of big data. He addressed the room that big data works on four rudimentary steps; identification, modeling, construction of the model, and execution. According to him, the analysis of big data can be dissected into five major extensions; explanatory, exploratory, descriptive, predictive, and prescriptive analysis. He etched out some of the disparate albeit connected techniques of business analysis for the discovery and derivation of business data. They are- classification, cluster, and association. He concluded his talk by presenting a riveting case study based on the international retail mammoth, Walmart that assembled diverse themes like automation of billing systems, work flow integration, and license software tools.

Dr. B.B. Singh then went on to introduce the next chief speaker to the gathering, Dr. Harish Chandra. A lean silhouette with a volcano of cognitive awareness, Dr. Harish Chandra was handed over a beautiful sapling by Mr. Rajneesh Mahajan, one of the very polymaths of Amity Business School. He then approached the dais with obvious enthusiasm and connected the dots that were left behind in the past like dissipating footsteps on a beach's sandy esplanade. He talked about the importance of data gathering and collection by refreshing the young minds with the archaic concepts of mean, median, and mode. With an unstoppable outburst of engaging and captivating examples, Dr. Harish Chandra freshened some of the long-lost concepts with an accession of fresh ones. He proclaimed about the depth of the matter by introducing novel concepts like outliers, variability theorem, experimental errors, outliers detection techniques, the box plot rule, the whisker plot model etc. He even talked about the magnificent reach of statistics by promulgating the ideas of normal distribution, probability distribution, confidence intervals, skewness, kurtosis, column chart, pie chart, line chart, scatter chart to name a few.

After an entire session of reciprocation of abstract feedings to the mortal wisdom, the delegates, the faculty members and the participants were cordially invited for the scrumptious lunch that was succeeded by yet another session of cerebral epiphany and dissemination.

The post-lunch session witnessed Dr. B.B. Singh on the soapbox. He coruscated the convention with his take on the topic of the hour by mentioning two of the most significant and remarkable concepts; time series and ARIMA modeling. He provided an explicable sketch of his session that included visualization of time series data, various concepts, modeling, forecasting, uni-variate and linear models, and their applications. Along with time series, he delivered some points to ponder that included monthly and annual graphs, data points, patterns, uncertainties, reasonability, and the conception of seasonality. Dr. B.B. Singh went forth to mention the types

of 'data', the omnipresent locution. He said that data consists of four types; seasonal, trend, cyclical, and residual. After dealing with the time series and its components, Dr. B.B. Singh pronounced the superseding concept, the ARIMA model. New, captivating, and fetching, this concept was received very well with transfixed gazes and open minds. It was mentioned in this hour the pliability of this concept. Housing immaculate sub-concepts like Box-Jenkins methodology, Dickey Fuller test, Auto Correlation Function, Partial Auto Correlation Function, Parsimony, performance measures etc. the ARIMA model is something magnanimous and absorbing. Dr. B.B. Singh concluded his delivery by presenting a case study on production of food grains in India (source: Directorate of Economics and Stats, Ministry of Agriculture and Farmers' Welfare) that was followed by a practical session on the R-studio, an integrated statistical tool for further practice.



DAY 2

We continued the seminar for Day II with our esteemed guests: Dr B.B. Singh, Dr. A.K Choubey and Mr Siddarth Kundu.

Students and the esteemed faculty showed immense pleasure and enthusiasm in welcoming the invitees again and to be under their indoctrinement. Yesterday's vigour continued among students and were keen to learn from today's session.

After a brief invitation facilitation for our learned dignitaries, the session was taken up to full throttle on its inception and a brief recap were given on yesterday's session topics. Students were encouraged to ask their doubts and queries during this session allotment.

Mr Siddarth Kundu was exceptionally charged up, quenching students queries with precise answers and patience's. He posed a replete of tides of brainstorming questions. He not only just managed to provide a satisfying answer but also made each one present in the room comprehend and understand intricacies of yesterday's session.

Students were instructed by Dr B.B Singh to practice case lets in yesterday's session regarding R Language and its application. So, many students were facing doubts and had questions related to Rstudio, an open- source statistics analytical software. A brief revision on the aforementioned software was given along with a list of command scripts used.

Mr Siddarth Kundu and took the lead and initiated today's session. After a brief facilitation for the esteemed DDG and NSSO by our very own respected, Dr. Anita Venaik, we headed straight for today's lesson.

Mr Kundu very masterfully covered and introduced the Multivariate Data analysis using various examples to help students learn the concept practically. With the help of various sample problems, he illustrated the topic and keenly guided the students on the concept of Correlation and Regression.

He expertly guided the students through the statistical waters, the seas were tested on a very crucial but intriguing topic of Covariance. The esteemed guest with various examples, broke down the objectives of this topic into varies pieces. He separately introduced the topic on Properties and Correlation Coefficient.

Sailing through the time as students were enthralled with session, further topics were discussed related to Regression Model. Not only did Mr Kundu presented scrutiny on topic Multiple Regression but exposed everyone in the room with topics covering Partial Regression and Correlation Coefficient, Multiple Regression Coefficient, Logit Probability Model, LINEAR Probability Model and Partial Effects pertaining to Regression.

Later during his session, he introduced the student with SPSS statistical Software Package used for interactive, or batched, statistical analysis. He presented its usage and gave a list of Commands as SPSS is widely used software used in market research, healthcare, surveys and education research.

The session went till 2 P.M, interrupted for mouth-watering lunch for students, faculties and the esteemed guest.

Later post-lunch, the session was reigned by Dr A.K Choubey. He already was student favourite with his gentle but insightful imparts and a sense of humour. He started the session with an overview on Cox Regression. The concept was illuminated with individual cases related to Data, Assumptions and techniques.

The concept of Survival Model was introduced and explained thoroughly with its application in healthcare and insurance sectors and telecom industry.

Penultimate to the ending, the concept further enunciated through a couple of case-lets related that of telecom company's efforts to reduce churn in their customer base as crux-study for potential independency and stratified proportional hazards and the omnibus tests of model coefficient was explained.

Today's day was finished with a brief Q&A session for the students and their queries pertaining to any topics discussed were resolved.

Later, our beloved Dr Sanjeev Bansal sir came forward and foliated and thanked our esteemed guest for the very precious and informative session, which positively culminated in signing a Memorandum of Understanding for future co-endeavours and sessions. The session was also graced by Dr. Alpana Kakkar Dy. Dean (Students Welfare / Professor Amity Institute of Information Technology).

Special felicitation ceremony was inducted for Research Scholars especially invited to attend this session and a small token of appreciation was conducted for all the faculties and volunteers, working hard to make this session most fruitful and knowledgeable.

