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Stochastic Modeling & Applications

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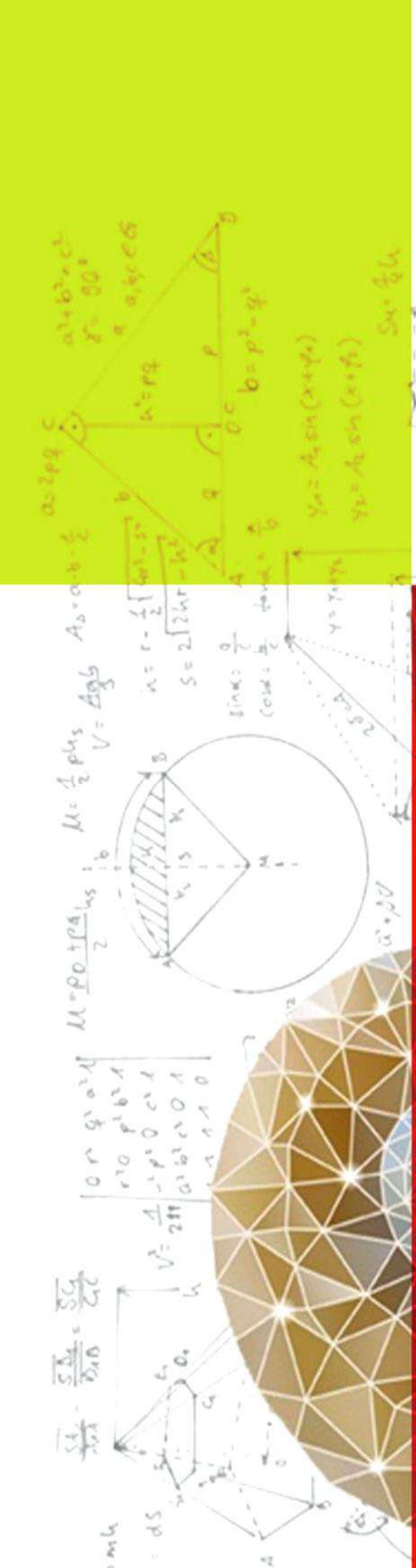

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Stochastic Modeling & Applications

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Debasis Bhattacharya
Visva-Bharati University, Santiniketan, India

Carlo Bianca
Laboratorie de Physique Statistique, Paris, France

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A STUDY OF THE SATISFACTION LEVEL OF THE STUDENTS IN THE ERA OF VIRTUAL LEARNING

MS. KIRTI SIGTIA AND DR. SHIVA PADME

ABSTRACT
Virtual Learning is the new normal in the field of education reason being Covid 19 situation. The present study attempts to find out the students' satisfaction score considering five parameters namely Teaching Learning Environment, Teaching Faculty, Placement, Infrastructure, Overall personality development. The study is a quantitative one, under which a structured questionnaire was circulated among the college going students. Data was received from 334 respondents and thus was employed to prove the hypothesis.

Keywords: *Students' Satisfaction Level, Performance Gap, Virtual Learning*

INTRODUCTION
Since the onset of COVID-19 since December, 2019, all the critical sectors have been flipped upside down, especially the education sector. This sector has been immensely influenced by the pandemic. Schools all over the world were forced to close their doors. This paved the way for remote learning or virtual learning. At the start the situation seemed to be momentary but in true terms this became the new normal.

The transformation towards virtual learning have impacted all the stakeholders of the education sector. The teachers had to reconsider their lesson plan so that the students do not face any problem. The student's community encountered a different problem. They are from different backgrounds. Many may not have adequate technology and support at their homes. The parents are juggling between their work from home culture and taking care of their children and their virtual classes. But the system of virtual learning has helped the education industry to keep their doors open.

Virtual learning being the only alternative to combat the situation of lockdown, students' satisfaction also plays a pivotal role for a strong effective and fruitful learning process. The concept of students' satisfaction is multidimensional. It may include factors, such as technological support, communication, student participation during the lectures, engaging students in extracurricular activities, flexibility, instructor pedagogical skills , workload, feedback system, engaging students in extracurricular activities, etc.[1] The current study is based on five parameters to calculate the satisfaction among the college students towards virtual learning which are - Teaching Learning Environment, Teaching Faculty, Placement, Infrastructure, Overall personality development[2]. The researcher also aims to calculate the overall satisfaction of the students.

OBJECTIVES
1. The paper aims to study the students through virtual learning in regards to:

- the teaching learning environment.
- the teaching faculty.
- the placement opportunities provided.
- the infrastructure.
- the overall personality development.

2. To determine the overall satisfaction level of the students through virtual learning.

HYPOTHESIS
Hypothesis 1: The students are satisfied with the teaching learning environment in virtual learning mode.

Hypothesis 2: The students are satisfied with the teaching faculty in virtual learning mode.

Hypothesis 3: The students are satisfied with the placement opportunities provided by the college in virtual learning mode.

[1] https://www.tandfonline.com/doi/full/10.1080/10872981.2021.1920090

[2] http://www.naac.gov.in/images/docs/apply_online/RAF-SSS-Guideline.pdf

Hypothesis 4: The students are satisfied with the infrastructure in virtual learning mode.

Hypothesis 5: The students are satisfied with the overall personality development assistance provided by the college in virtual learning mode.

Hypothesis 6: The students are overall satisfied with the virtual learning mode.

REVIEW OF LITERATURE

- Muhammad Zaheer and collaborative writers in their paper '**E-Learning and Student Satisfaction**' have measured the level of satisfaction in e-learning mode based on a virtual university of Pakistan on the basis of eight dimensions most precisely, learning resources, course content and organization, faculty, quality of delivery, learning environment and teaching methods, assessment, student contribution and tutorials. The students were convinced with the virtual methods of learning.

- Nor Azwahanum Nor Shaid (2021) along with some contributors have examined the student satisfaction at The National University of Malaysia during the pandemic. The students were found to have a positive attitude toward the virtual style of learning in the study.

- Another paper by Ram Gopal and his associates titled '**Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19**' explores the factors influencing the satisfaction level of the students and also assess their performance in the virtual classes. The study's findings show that elements such as teacher quality, course design, feedback, and student expectations have a favourable impact on student satisfaction and, as a result, performance.

Need of the Study

In these troubled times of Covid 19, it is everyone's perception that education cannot be conducted through virtual mode. However, the reality may not be the same. So, the researcher has made an effort to compute the students' satisfaction level with respect to virtual learning.

RESEARCH METHODOLOGY

To attain the objectives of the study, primary data was collected from Satisfied 334 number of respondents studying in different graduate and under graduate programs, by the way of a structured questionnaire. The data collected would be classified on the basis of five parameters Teaching Learning Environment, Teaching Faculty, Placement, Infrastructure, Overall personality development. These parameters are mentioned by NAAC for the purpose of calculation of students' satisfaction. The classified data will be analysed and the satisfaction score of each of the parameter; the overall satisfaction score and the performance gap will be calculated.

DATA ANALYSIS

Firstly, the Student Satisfaction Survey was conducted by the form of structured questionnaire by the way of Google Form. A total of 334 responses were received from undergraduate students and they rated each one of the five parameters on a five-point Likert scale that ranged between highly satisfied to highly dissatisfied.

Table 1 indicates the percentage of responses received by each of the parameter against the total responses for the levels 'Highly Satisfied' and 'Satisfied'. In order to compute the students' satisfaction, score the responses received from the students are provided extra weights, on the basis of responses whether 'Highly Satisfied' or 'Satisfied'. This method of assigning weights is known as 'Rating'. This is attained by assigning a weighted score to the percentage calculated (as mentioned above) for each parameter. (+1 is assigned for 'Highly Satisfied' and 0.6 is assigned for Satisfied.) **Column A & B** shows the calculation of weighted score for 'Highly Satisfied' and 'Satisfied' response. Then Total Satisfaction Weighted Score is calculated by adding **column A & B**.

Next, the 'Total Satisfaction Weighted Score' has to be set on a scale of 1 to 10. To do this the 'Total Satisfactory Weighted Score' was divided by 10.

Satisfaction Index (Table 1)

Indicators	Highly Satisfied	Weighted score for Highly satisfied response	Satisfied	Weighted score for Satisfied response	Total satisfaction weighted score	Range between 1 to 10
		(A)		**(B)**	**(C=A+B)**	**(C/10)**
Teaching - Learning	40.52	40.52	59.48	35.69	76.21	7.62

Environment						
Infrastructure	40.26	40.26	59.74	35.84	76.10	7.61
Teaching Faculty	43.15	43.15	56.85	34.11	77.26	7.73
Placement	42.77	42.77	57.23	34.34	77.11	7.71
Overall personality development	41.77	41.77	58.23	34.94	76.71	7.67

For the purpose of computing the 'Performance Gap', an 'Importance Score' was specified for each parameter, within a scale of 1 to 10.

Table 2 depicts the 'Importance Score' and its comparison with satisfaction score in order to calculate the 'Performance Gap'. The table also calculates the 'Overall Weighted Average Score of Satisfaction' of the students.

Table 2

Indicators	Importance Score	Satisfaction Score	Weighted Average	Weighted Score	Performance Gap
	(A)	**(B)**	**(C=A/F)**	**(D=B*C*10)**	**(E=A-B)**
Teaching - Learning Environment	9.50	7.62	1.09	83.22	1.88
Infrastructure	9.00	7.61	1.03	78.73	1.39
Teaching Faculty	9.50	7.73	1.09	84.36	1.77
Placement	8.00	7.71	0.92	70.91	0.29
Overall personality development	7.50	7.67	0.86	66.13	-0.17
Average(F)	8.70	7.67		76.67	1.03

CONCLUSION

The study probes into the level of satisfaction of undergraduate students towards virtual learning in the current situation of pandemic. On the basis of **Table 2** the researcher is able to conclude that the average importance score given to virtual learning is 8.7 and that the satisfaction score of the students is 7.62 The 'Overall Satisfaction Score' has been computed as 76.67 %. This has resulted in a 'Performance Gap' of 1.03. This reflects that the students have a considerate level of satisfaction with virtual learning mode. While studying all the parameters and the satisfaction level of students against all the parameters, it was found that the learners are quite satisfied with the virtual learning environment. It is also observed that the performance gap of the parameter 'Overall Personality Development' is negative. This is a win - win situation for the colleges.

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AUTHOR DETAILS:

[1]MS. KIRTI SIGTIA AND [2]DR. SHIVA PADME

Assistant Professor[1] and Associate Professor[2], Department of Accountancy, Prahladrai Dalmia Lions College of Commerce and Economics, Malad, Mumbai Affiliated to University of Mumbai

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ROLE OF HR AND TECHNOLOGY IN MANAGEMENT OF PERFORMANCE OF INDIAN RAILWAYS

DR. SHOBHA DEDHIA

ABSTRACT

The service sector concept of various types of service such as electricity supply, water supply, banks, railway, airways, hospital, police, post service, call centers, insurance, etc. and this has become a challenge for the Human Resources Department. Out of all services the largest service sector is the Indian railways. Indian railway has a vast and large spread network all over India. Indian railway having 12.54 lakh (1.254 million) staff (2020) with one of the largest employers in the world as one of best BRAND to work. In 2019, there was net revenue of Rs 1,97,214/- Cr (US $ 28 billion) in 2018-19. Same time, there was total expenditure on staff around Rs 1,54234/- including pension. This itself gives insight that around 75% is spent on staff by the Indian Railway. This expenditure on staff can indicate that Indian Railway is spending huge amounts on staff wages but earning is very low compared to the overall revenue receipt. This has brought challenges for managing the Human Resource for dealing with them effectively. Due to the introduction of new economic policy 1991 that brought liberalization, privatization and globalization in the country, this addition brought various threats as well as opportunity for businesses. To meet the basic objective the human resource personnel of the Indian Railways have to identify the nature of these threats, challenges and opportunities for defining their roles and responsibilities so that threats can be grabbed and various opportunities can be grasped. The paper examines the role Indian railway plays in serving employment opportunities and the competition it faces from other forms of transport players. At the same time, the paper focuses on the operational cost of the Indian railway and trends in it since the last 10 years. Finally the paper deals with technological innovation, which if implied successfully in HRM practices can help the Indian Railway (IR) to overcome several barriers.

Keywords: *Human Resource Management, Indian Railway, Technological Innovations, Operating Profit.*

1. INTRODUCTION

The Indian railways is the largest commercial enterprise of the public sector in the world. Various research work has been conducted on this for different aspects such as on management of Indian Railway, human resources management, employment relations, etc. **(Pereira, et.al 2014-2016).** This paper contributes to this body of knowledge by identifying the multiple stakeholders and links high performance work practices (HPWP) to different indicators of performance in the Indian Railways. Several attempts have been made for explaining the relationship between human resource practices and firm performance **(Legge, 1995; Boxall & Purcell; 2003).**

Analyzing transitional economies is very important for building the theory and understanding the dynamics of the institutions and organizations **(Chiaburu, 2006).** For focusing on the Human Resource Management system the theory-building is very important. The research on Human Resource Management is mainly done by survey for identifying the High Performance Work Practice and its statistical links with performance of organizations.

But nowadays research on Human Resource Management is mostly done in the private sector where public sectors are mainly ignored. But the public sector mainly provides a different context of decision making which is mostly influenced by various stakeholders' demands such as central and state government, politicians, citizens, service users **(Perry and Porter, 1982; Rainey, 2009).** The decision is also influenced by various groups of trade unions, employees or managers. The decision of the public sector is taken from the point of view of benefiting the citizens and users of the service and not for profit.

For this research paper the Indian Railways from the Public Sector Units, which is the world largest employment generating sector. For this we have interviewed the 62 members of Indian Railway who are HR manager and employees for exploring the who are the main stakeholders for influencing the Human Resource Decision, what are the Human Resource practices they implement for High Performance Work Practice, what are the financial and non-financial indicators used to define the performance in this Indian Railway.