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IMPACT OF WELL BEING MANAGEMENT IN SERVICE SECTORS

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Abstract
Every day, millions of people rely on Indian Railways, one of the world's largest railway networks, to get them where they need to go. But train accidents still undermine operational efficiency and the safety of passengers. This study evaluates the efficiency of railway network management in preventing accidents, with a focus on how corporate governance may enhance safety measures, transparency, and accountability. Systemic inefficiencies have increased accident risks due to governance failings such as corruption, low investment in infrastructure, and poor maintenance. The study delves into the effects of weather on digital and railway telecommunication equipment, drawing attention to the necessity for infrastructure that can withstand weather conditions and predictive maintenance driven by artificial intelligence. Improved passenger safety and confidence can be achieved by Indian Railways through better corporate governance and the implementation of cutting-edge safety measures. To reduce the frequency of train accidents and guarantee the long-term viability of railway operations, the results highlight the need for new policies, improved technology, and vigilant monitoring.

Keywords: Train Accidents, predictive maintenance, passenger well-being, corporate governance, climate resilience, railway network management, and policy reforms pertaining to the Service Sector.

Introduction

Serving millions of passengers every day, Indian Railways is an integral part of the country's transportation system and one of the biggest railway networks in the world. Nevertheless, rail accidents continue to be a major issue, impacting the safety of passengers and the effectiveness of train operations. There are a lot of accidents that cause injuries, deaths, and financial burdens. These include derailments, collisions, signal failures, and human errors. To reduce these dangers and guarantee the safety of passengers, efficient management of the railway network is essential.

If the Indian Railways want to increase accountability, transparency, and safety, they need to reform their corporate governance. Inadequate investment in infrastructure, corruption, poor management, and lax safety regulations are all examples of governance failures that can lead to systemic inefficiencies. Decisions are made responsibly, resources are allocated efficiently, and safety rules are adhered to when there is proper governance.

The security and dependability of train services are directly related to the welfare of passengers. Safety standards can be compromised, accident rates can rise, and passenger trust can worsen due to poor governance. There can be a considerable decrease in accidents and an increase in passenger confidence with stronger corporate governance brought about by legislative reforms, independent supervision, and increased accountability. A well-managed train network does more than just keep people safe; it also helps the economy stay stable and promotes long-term growth.

Statement of the Problem

Indian Railways, among the largest train networks globally, is essential for national connectivity and economic development. Train mishaps, including derailments, signal failures, and unexpected

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technological faults, adversely affect passenger safety and service reliability. Significant events like as the Coromandel Express accident (Odisha, 2023) and the Lucknow-Rameswaram Express fire (Madurai, 2023) underscore the necessity for ongoing improvements in railway management. Elements such as sophisticated signalling systems, climate adaptability, and technological enhancement are essential for guaranteeing safe operations. This paper analyses the impact of corporate governance on enhancing railway safety, adopting predictive maintenance, and using AI-driven monitoring systems. The research seeks to offer ideas for improving railway network management and passenger safety through a comprehensive analysis of accident case studies and policy frameworks.

Objectives of the study

1. To study the practices of wellbeing management in the service sectors.
2. To analyse the various incidents from the available sources in the study area.
3. To evaluate the absence of consequences of wellbeing in the various service sector.

Research Methodology

The aim of this study is to find out how corporate governance affects the management and safety of train networks by using both qualitative and quantitative research methods. Along with statistical trends in train accidents, secondary data from accident reports, safety audits, and governance rules will be looked at. Structured conversations with railway officials and safety experts, as well as surveys of passengers, will give us the most important information. Recent train accidents will be used as examples to show problems with governance, signalling, and repair. As possible answers, the study will also look at climate resilience and predictive maintenance powered by AI. Statistical modelling and thematic categorisation of qualitative observations will be part of the data analysis. The results will help policymakers come up with ways to improve company governance, make trains safer, and make sure passengers are healthy.

Dailtone Failure @ Rajbhavan Telephone Exchange Bsnl Chennai Telephones

The First author [herein after referred as the author]blessed with his second Employment in BSNL Chennai Telephones as Junior Engineer[Telecom] erstwhile Telecom Technical Assistantrecruited by All India Competitive Examinations held on 02-09-2000 & 03-09-2000and posted at IIT-Madras BSNL

Telephone Exchange in the April-2002. The author has undergone 13 nos. of Technical Trainings provided by the BSNL Chennai Telephones 2 Nos. of Trainings given by Govt. of Tamil Nadu.

The author has been transferred and posted at BSNL-Rajbhavan Telephone Exchange, Chennai which located at the South-West Corner of His Excellency Governor of Tamilnadu's Residence. At that time the author was undergoing final yearof B.Tech [Information Technology in the College of Engineering Guindy being the First Batch with the ample input given by Dr. Apj Abdul Kalam in the year 2000 before he assumed charge as President Of India. On One day During the author'sofficial duty tenure in the Rajbhavan Telephone Exchange for the period from February2004 to July 2005, Total Failure of Dialtone around 4:00 am, an Incident has occurred at the RajbhavanTelephone Exchange which caused Total Non-functioning of BSNL Landlines at the Governor's Household and other Areas in South-West Chennai which receives Telecommunication Landline Connectivity from BSNL-RajbhavanDigital Telephone Exchange. The Author who has the in-charge of the Exchange during Night shifts has been issued with Show Cause Noticeand obediently replied for his innocence in care taking of high capacity Digital Exchange and he was no way connected with the Digital Exchange Failure.Though he has been relieved from the Notice against him by the BSNL Executives, the authorfaced severe stress for the fault not done by him.

The authoralso experienced severe mental agony and torture given by immediate higher officials and sub-ordinated staff, he got transfer to DLC[South] - Digital Loop Carrier Technology an unit office located at good old Mambalam Telephone Exchange – Anna Road, Chennai.

After the period of his transfer to DLC[south], it has been informed through his friends that the Rajbhavan Telephone Exchange had encounteredanother 2 or more Dialtone Failures and was handled by E10B Model Exchange Installation Wing of BSNL Chennai Telephones.

Reason& Analysis for the Failure of Digital Telephone Exchange @ Rajbhavan, BSNL Chennai Telephones

Considering the Electrical Architecture in which 3 phase Electric power Rajbhavan Telephone Exchange is fed from Rajbhavan TANGEDCO 33/11 KVA Substation located along Rajbhavan-Velacherry Road. The conventional blocks for the Digital E10B Exchange comprises of Electrical Cable Input from TANGEDCO, Stabilizer Room, Power Room, Test Desk and Switch Room etc., The primary function of each block is different in terms Electrical Power Point of view.

OHM'S Law For Electric Circuit

Ohm's law states that the current flowing through a conductor is directly proportional to the voltage across the conductor, provided all physical conditions and temperature remain constant.

$I = V / R$ for DC Circuits,

$I = V / Z$ for AC Circuits,

Where I is the Electric Current in Amperes,
V is the Potential Difference in Volts,
R is the Resistance in Ohms [For DC Circuits]
Z is the Impedence in Ohms [For AC Circuits]

Where $R = \rho L / A$
ρ = Specific Resistance
L = Length of the Conductor

A = Area of the Cross Section of the Conductor the specific resistivities of various electrical conductors at 20°C (68°F) without diagrams:

1. Silver: 1.59 × 10^-8 Ω·m
2. Copper: 1.72 × 10^-8 Ω·m
3. Aluminum: 2.65 × 10^-8 Ω·m
4. Tungsten: 5.6 × 10^-8 Ω·m
5. Nickel: 6.9 × 10^-8 Ω·m
6. Lead: 22 × 10^-8 Ω·m
7. Mercury: 96 × 10^-8 Ω·m

Whereas Chennai City is Recorded with "HOT-HOTTER-HOTTEST" Climatic Conditions for the past several decades.

1. Ohm's Law holds good only at Constant Temperature Conditions.
2. As and the when the Temperature Condition varies the various metals such as Aluminium, copper, Lead etc made up of different Electrical/Electronic Cables { Length(L), Area of cross section (A) and Specific Resistivities } would have exerts few micro seconds of no conductivity between DC Battery Bank to the Switch Room resulting in Total Landlines Dial-Tone Failure @ Rajbhavan Telephone Exchange, BSNL Chennai Telephones.

Iob-Atm Installation @ Devakottai Road [Dko] Railway Station

The author has been blessed with his 3rd Employment as Manager [Information Technology] in Indian Overseas Bank [herein after referred as IOB], Chennai and posted in Policy, Planning & Infrastructure Wing of IT Department [PPID-hardware] at the IOB, Central Office, Chennai. He also worked in ATM andGeneral Admin Department of IOB. With the knowledge given by CEG-College of Engineering Guindy, Anna University, Chennai 25 and the blessings of DR APJ ABDUL KALAM in the year 2000 & in the year 2003 DR SRI SRI RAVI SHANKAR @ Vivekananda Auditorium.

By observing tremendous difficulties faced by the poor people in and around the hamlet of IOB-Amaravathy Pudur Branch and for the fulfilment against reasonable requirement of liquid cash currencies by the farmers and considering an installation of ATM/CDM at the appropriate place. It has been suggested/proposedby the author to install an ATM/CDM machine at the Devakottai Road Railway Platform because more no. of People are transporting across the Railway Junction and Bus Stand at the Level Crossing which intersects Pudukottai-Rameshwarem Highway. But the proposals submitted by the author has been neither accepted nor rejected by the IOB Management without informing any reason even after NIL Rent and Electricity Charges, etc., provided by Railway Authorities for the ATM Space.

While travelling daily from Karaikudi to Amaravathy Pudur for official duties, the author has to travel via Ariyakudi& DKO Railway Level Crossings. He visited the DKO Railway Junction/Platform and taken a Photograph by covering all the required places in and around the Amaravathy Pudur-DKO Railway Junction with an indent of Installing ATM/CDM machine considering the floating population. On 16-03-2022 at around 10:28 am while taking a picture of a Railway Clock which shows __ __:1 __ and gives very much shock to the author since all the 7-segment LED Display Railway Timers in INDIA have specific 2 digits for indicating hours and 2 indicating two digits for minutes IN 24 HOURS TIME FORMAT. Under No circumstances it will show __ __:1 __ which must be a problem malfunctioning with the Railway Clock available in the DEVAKOTTAI ROAD Railway Platform.

Reason & Analysis for the Failure of Railway Clock @ Devakottai Road[DKO] Railway Platform

The diagram illustrated in Figure C may please be perused. The time for the Railway Clock must have drawn centrally from a Railway Network will always show time in 24 Hours timeformat OO:OO. But on that particular day an heavy heat felt by the author while crossing the Railway Level Crossing and adjoining places around DKO and while taking the photograph through his mobile phone even at 10:28 A.M., the Clock shown __ __ : 1 __ and the Railway Clock fluctuated between these two andStands still as in the photograph C given in Page No: 9. [Malfunction of Railway Clock at DKO Railway Platform on 16-03-2022 @ 10:28 A.M.]

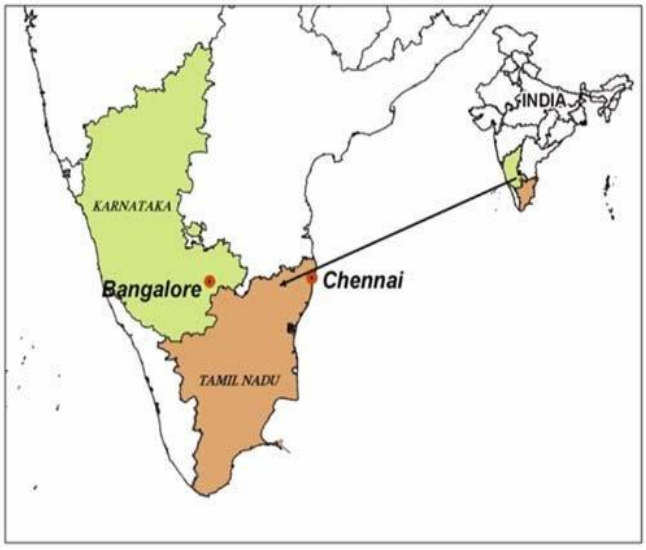
In DKO Railway Station about a maximum of 6-8 Trains usually cross in a dayand almostthere will be nopeople we can see on the Platform except very few and railway a staff working inthe ticket counter on shift basis.

1. After the formation ofHelio Centric Theory, there existsa 23 ½ DegreeTilt of Earth and its Rotation and simultaneous revolution around the sun.
2. Global Warming also could not be consideredsinceadverse activities of man cause on 25% of Land portion will not affect 75% sea water level around the globe.
3. Karaikudi to Devakottai Road have very less Vehicular Traffic, Carbon Emission, and other possible reasons for Global Warming.
4. Also, No Deforestation or Agricultural/Industrial Activity or anything which inducts Global Warming for the entire District for the past 7 years.

Taking into account of all the above reasons, the Sun's excessive Energy which must be the reason for the malfunction of DKO clock as per Ohm's Law. This is also a reason forMelting of London Railway Signal as shown below:

Source : Today's news headlines, breaking news India, World news and cricket news | Hindustan Times (no date). https://www.hindustantimes.com/.

Copy Temperature variations of Chennai [HOT-HOTTER-HOTTEST] to become rainy at the Same time Bengaluru scorched with Excessive Heat on the Same day during September 2023.



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Train Accident #T1 :
Bahanga station in Balasore district, OdishaOn 02-06-2023 @ 11:30 P.M.

Withadequate speed, the Coromandel Express entered the passing loop rather than the main route near Bahanga Bazar railway station and collided with a goods train. Due to the Coromandel Express's high speed, three of its 21 coaches derailed andcrashed with the incoming SMVT Bengaluru-Howrah Superfast Express on the next track.

According to the Commissioner of Railway Safety's report, the reason of the disaster was a "human error" in the signalling-circuit-alteration performed at the Bahanaga Bazaar station. The audit also discovered flaws in the safety protocols followed by railway employees.

Analysis for the Train Accident #T1:
Right from Electric Power Cable to Signalling and Train Control systems and to Actual Singal Lights the Electric Power have to be passed with Different Dimension of Cables where as the Micro Controller of the Control System works on few DC Power.

The Specific Resistance varies for the every cable material like Aluminium [for Electric Power Input ODISHA Electricity Board], Copper Cables which carries Electric Power to Various Power Devices and Signals Lamp Lights which are exposed to different types of Atmospheric Temperature.
It is necessary to take into account the following points:

1. ODISHA is the Highest Temperature evolving State in India since “Konark Sun Temple” built in the 13th century CE during the reign of the Eastern Ganga Dynasty approximately 1250 CE King Narasimhadeva-I.
2. For the Past few decades increase in Trend of “Global Warming”.
3. The Bhanga Railway Station must have experiences drastic Changes of Temperature in Day & Night. [Have been correlated with Meteorological Data from that area].

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4. The Hardware used for Railway Signalling Could not be Time Tested since Simulation of Tolerance Temperature for such Hardware not possible in Real Time Climatic Conditions.
5. There must be sudden surge/loss & Continual of Electric Power might have shown fraction of Change of Signal Light to the Driver.

Train Accident #T2
Lucknow-Rameswarem Express stationed at Madurai
Date:26-08-2023 Time of Incident: 05:15 A.M

The train involved was the Lucknow-Rameswaram Express, which a Coach carrying 64 passengers.A fire broke out in one of the coaches, a private party coach booked by a tour operator.The fire is believed to have been caused by an illegally-brought gas cylinder.10 people died in the fire and 20 others were injured.The fire was brought under control by the fire department.The injured passengers have been admitted to a nearby hospital.

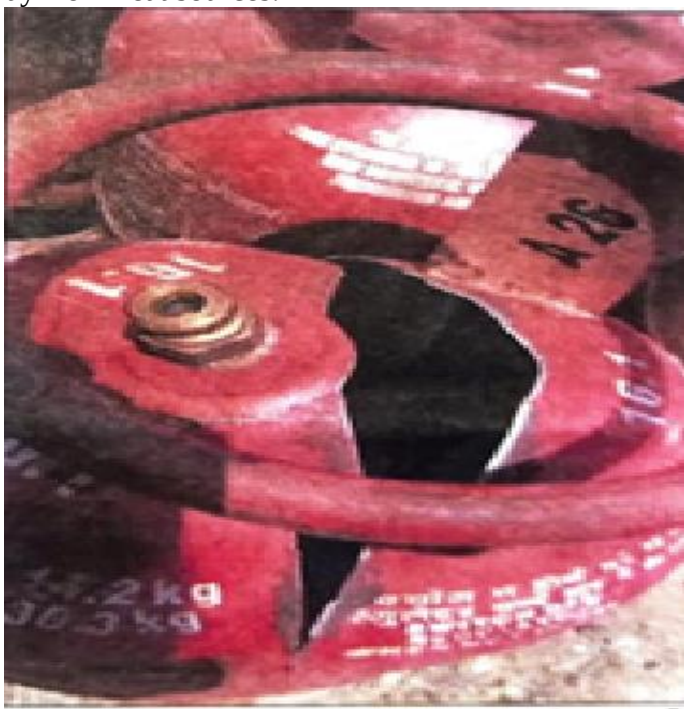
The Southern Railway has announced an ex-gratia of Rs 10 lakh each to the families of the deceased. The railway has also ordered an inquiry into the accident.The government has promised

Source: www.jansatta.com ›
to take steps to improve safety on Indian railways. However, accidents continue to happen due to a number of factors, including outdated infrastructure, poor maintenance, and human error.

Analysis for the Train Accident #T2
Boyle's law is related to LPG Cylinder function and blast. Boyle's law states that the pressure of a gas is inversely proportional to its volume, at constant temperature. This means that if the volume of a gas is decreased, the pressure will increase, and vice versa.

LPG is a liquified petroleum gas that is stored in pressurized cylinders. When the valve on an LPG cylinder is opened, the gas expands and the pressure decreases. This is why it is important to slowly open the valve on an LPG cylinder to avoid a sudden release of gas.

If an LPG cylinder is overfilled, the liquid LPG can expand and increase the pressure inside the cylinder. This can lead to a blast if the cylinder is not properly designed or if it is not used safely. LPG cylinders should be kept in cool and away from heat sources.



In September -4, ‘ DinaThanthi ’ news which stated that Blast of New Gas Cylinder stocked in a Ground for Distribution to the Customers of Indian Oil. As the new LPG Gas Cylinder fully filled with Propane, Butane, etc., with constant adequate pressure within the cylinder, the Blast will become possible in Chennai being the Plain Geographical Region with drastic changes in Temperature parameters [HOT-HOTTER-HOTTEST].

LPG cylinders are equipped with safety valves that release excess pressure if it builds up to dangerous levels. This prevents the cylinder from rupturing due to excessive pressure.There is also a pressure relief device in the cylinder that allows gas to vent safely if the temperature around the cylinder rises significantly.

The Lucknow to Rameswaram train route passes through three temperature zones in India:

1. Warm and humid: Lucknow, Kanpur, Prayagraj, Varanasi, Patna, Gaya, Dhanbad, Asansol, Durgapur, Howrah, Kharagpur, Balasore, Bhubaneswar, Berhampur, and Visakhapatnam
2. Hot and dry: Vijayawada, Guntur, Nellore, Tirupati, and Vellore
3. Warm and humid: Tiruvannamalai, Thanjavur, Tiruchirappalli, Madurai, and Rameswaram

The Train Accidents Disaster happened at Odisha & Madurai is due to the Nature that our Motherland-INDIA located just above the Equator and receives more Solar Energy from the Sun in the SOLAR SYSTEM. This evident from the Geographical Information that our Motherland has got 6 Types of General Climatic Conditions and thus resulted in vast variety of Flora when compared to other Continents/Countries around the Globe.

The shear reason for the Accidents occurred because of the excessive Heat Energy Received from the Sun and the Two Laws

1. Ohm's Law - which holds good only at CONSTANT TEMPERATURE and.
2. Boyle's Law – which also depends on the TEMPERATURE and PRESSURE.

All the part & parcel of our motherland governed by various Laws' like our Constitution of India and hence, we cannot deviate from any Law whether it is scientific or else., under any circumstances. ALL THAT WE CAN DO IS "ACCEPT, ADHERE, ADAPT AND MOVE ON ALONG WITH THE MOTHER DIVINE "

Suggestions to Government of India

As we cannot replace the Railway, Signalling & Traffic Management with the aid of Electrical/Electronic resources IMMEDIAELY against the Accidents and find faults with Railway personnel working for their high paid salary and Pension for their beloved family and the passengers who are travelling at the time of incident. Thereby All the Indian Railway Networks may please be managed with optimum utilisation of Human Resources in that Local jurisdiction.Railway telecommunication and digital systems should be built using weather-resistant materials to endure the severe temperatures, humidity, and monsoon conditions of India. This will ensure that the equipment is climate resilient.Electronic and communication equipment, particularly in areas subject to intense heat, heavy rains, and high salinity, must be subject to periodic inspection and real-time monitoring as part of an absolutenecessity. Critical equipment, such as signal relays, control circuits, and digital communication hubs, should have cooling systems and heat-resistant casings to avoid failures caused by overheating. To protect railway signalling and communication equipment from water damage and corrosion, it is recommended to use anti-corrosive coatings and install improved drainage systems in places prone to flooding and coastal locations.

AI-Powered Predictive Maintenance: By utilising AI-driven fault detection systems, system downtimes may be reduced and wear and tear caused by the climate can be identified early on. This allows for proactive maintenance to take place.

Temperature Data At Bahanga-Balasore From June 2020 To August 2023			
Month	**Average Temperature (°F)**	**Average High Temperature (°F)**	**Average Low Temperature (°F)**
June 2020	88	**100**	76
July 2020	88	100	76
August 2020	87	100	75
September 2020	85	99	75
October 2020	85	97	73
November 2020	81	93	69
December 2020	77	88	66
January 2021	71	81	60
February 2021	75	86	63
March 2021	80	91	69
April 2021	84	95	73
May 2021	88	100	76
June 2021	88	**101**	76

July 2021	88	100	76
August 2021	87	100	75
September 2021	87	99	75
October 2021	85	97	73
November 2021	81	93	69
December 2021	77	88	66
January 2022	71	81	60
February 2022	75	86	63
March 2022	80	91	69
April 2022	84	95	73
May 2022	88	100	76
June 2022	88	**101**	76
July 2022	88	100	76
August 2022	87	100	75
September 2022	87	99	75
October 2022	85	97	73
November 2022	81	93	69
December 2022	77	88	66
January 2023	71	81	60
February 2023	75	86	63
March 2023	80	91	69
April 2023	84	95	73
May 2023	88	100	76
June 2023	88	**101**	76
July 2023	88	100	76
August 2023	87	100	75

Source: Secondary data

Conclusion

The study is concluded that the people well being is affected by the service sector, particularly focusing on Indian Railways. Due to lack of infrastructure development, poor maintenance and poor governance and etc. This study suggests to invest in infrastructure development, efficient operation functions, vigilant monitoring and good maintenance. So, that it will enhance the well being of the Indian Railways passengers..

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