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SYMBIOSIS INSTITUTE OF DIGITAL AND TELECOM MANAGEMENT

[Formerly SYMBIOSIS INSTITUTE OF TELECOM MANAGEMENT]

CONSTITUENT OF SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

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CASES IN DIGITAL & TELECOM TECHNOLOGY MANAGEMENT



YEAR 2019-2020

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SYMBIOSIS

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Volume 1



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DIRECTOR'S MESSAGE



CA. Dr. Abhijit V. Chirputkar
Director, SIDTM

SIDTM's Case Studies in Digital and Telecom Management, the student journal of SIDTM, aims to motivate the students to learn and do research in the area of cases in the niche domain. Students will be writing case studies in the current areas of technology management which is changing very fast.

It is observed that cases in functional domains are available for students to learn; however case studies in the niche domain such as technology management are rare. Technology keeps on changing and so are the areas of technology usage in different sectors and industries. Digital transformation is affecting all industries and it is interesting to study the cases from this evolving field.

This will help students keep abreast of the current happenings in the area of Digital Technology Management and also help dissemination of knowledge, information and learning. Students are expected to have an enriching and life-turning experience which will enable them to reach new heights in their professional life. We at SIDTM foster sharpening of skills and enhancement of knowledge base in our students through various extra-curricular, co-curricular and curricular activities through faculty who not only keep themselves at par with the current developments, but also contribute to the expansion of the body of knowledge in their field of expertise. With very congenial and professional environment our faculty makes substantial contribution to the academia through quality teaching, publications, seminars, conferences, etc.

To facilitate this, SIDTM has been publishing Prevision- An Annual Telecom Forecast, Telecom Business Review Journal and Prayukti. To enhance domain specific knowledge among members of faculty and among students in the areas of case studies, SIDTM has come out with this new publication.

EDITOR'S MESSAGE



Dr. Sujata Joshi

Professor & Faculty incharge of Research & Publication, SIDTM

SIDTM-Student Case Folio: Cases in Digital and Telecom Technology Management" started in the year 2019, is an initiative by the institute to expose students to the nuances of case study writing and developing technology solutions to address the problems faced in these case studies. SIDTM is a techno- management business school that has remarkably evolved into a center for learning and excellence in the digital & telecom technology management domain. At SIDTM, we focus on Digital and Telecom management. The curriculum consists of core management subjects and is applied to digital technology management through case studies. While searching for case studies it was observed that although many case studies are available in the management domain there are very few magazines or case books which offer technology management case studies. SIDTM took this challenge as an opportunity to develop cases studies in the technology management domain which can be used in the classrooms.

Students were involved in this case study writing project. A set of 2 or 3 students under the mentorship of a faculty mentor took up problems or issues faced by companies, farmers, manufacturers etc. and how these could be resolved using technology solutions. This initiative proved to be a good learning experience for the students as they could relate how technologies can be applied to resolve problems faced by organizations. A brief abstract of these case studies has been printed in the form of a booklet which has been named as "SIDTM-Student Case Folio: Cases in Digital and Telecom Technology Management". The Volume 1 of the Case book was released in 2019. This volume contains abstracts of case studies on different techno-management topics such as: Implementation of AI ML In Dairy Sector, Technological Advancements in the Dairy Industry, Comprehensive Description on Automated, Hydroponic Indoor Farming System using LEDs, Cattle Health Events or Diseases and many more.

The full case studies will be made available on request.

On behalf of the SIDTM, we would like to take this opportunity to express our gratitude to all the Professors for their support and guidance and to the students who have directly or indirectly contributed to the magazine

PREFACE

Symbiosis Institute of Digital and Telecom Management works towards developing techno-managers by exposing the students to latest technology, enabling them to manage the technological aspects of an organization.

As a part of a Digital and telecom business school, that has adapted and catered to the needs of the ever-changing Digital Technology (ICT) industry, it gives us an immense pleasure to release the case study journal. The success of the lies in the collaborative efforts of the team members, students, and the faculty members.

The latest trends of ICT industry are researched and are brought out through insightful papers. This edition comprises of case studies in the technology management domain. The areas of focus are: Telecom, IoT, Cloud Management, Cyber Security, Forensics, Block chain Technology, Digital Transformation, data-driven marketing, electronic smart systems and drones etc. On behalf of the editorial board, we would like to take this opportunity to express our gratitude to all the Professors for their support and guidance and to the students who have directly or indirectly contributed to the magazine. We would love to hear your suggestions that could help us with the future editions.

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1. CS01

Vodafone Idea merger: An analysis from Strategic and Financial Perspective

Aayush Kulshrestha, Tejas Kamble, Ami Kher, Kopparati Sindhu, Ankit Rai, Mahantesh Kattishetti, Ishaan Pagay

The Indian telecom industry has faced a huge disruption because of the entrance of new telecom players. Operators such as Reliance Jio has created massive disruption in the telecom market by offering services at low rates. This has caused operators to either quit the market or merge together. One of such mergers is that of Vodafone and Idea. This case focuses on the strategic and financial perspective of the Vodafone-Idea merger. An analysis of the major reasons which led to the merger has been carried out along with the major issues. In addition, comparison of the merged entity with other operators such as JIO has assessed in a holistic way. An analysis of the prospects of this merger on the entire Indian telecom industry is discussed as well.

2. CS02

Is TATA Sky equipped to fight a battle against the Giants in the OTT Industry

Abhishek Pratap, Anu Bhakthadas, Amit Bais, Manasi Raghuvanshi, Jayant Mane, Mohit Marwah, Mrigank Das

TATA Sky, one of the leading DTH service providers in India, has been the most prominent content broadcaster and aggregator. Initially, the content creators and distributors would broadcast their contents through DTH service providers like TATA Sky. Today the content creators and distributors themselves deliver the content through their online applications (either free or with minimal charges), and due to this being just a broadcaster, the prominence of TATA Sky is slated to decline. TATA Sky has traditionally competed with cable operators who are ill-equipped both in terms of finance as well as technology. But, with the proposed entry of large telecom players such Reliance Jio and the Over the Top (OTT) players such as Netflix, the inter-platform and intra-platform competition has intensified. Interestingly, all its competitors such as Jio, Netflix as well as Dish TV have forward linkages in distribution networks &

backward linkages in content production. So, TATA Sky is facing a stiff challenge and its survival and growth will depend on how it leverages its strengths to overcome them. This case brings out the various aspects in these challenges and presents the possible solutions to overcome them.

3. CS03

A Comparative Case Study on Microsoft Windows Defender and Symantec Endpoint Protection

Ankit Sinha, Aniket Ravindra Ahire, Ankita Raina, Ayisha Patnaik, Ben Daniel Jacob
Nikhil Balchandra Jadhav, Mohammed Abdrihaq Nur

US tech giant Microsoft Corporation (MS) has started using Machine Learning in their Anti-malware Windows Defender. The latest update introduced by Windows 10 is the block at first sight protection known to be anniversary update build 1607. Block at First Sight feature uses Machine Learning and automated analysis to check if the program which is processed is malicious or not and it checks using Microsoft Cloud Protection. On the other hand, Symantec Corporation is an American software company that provides cybersecurity software and services. This Anti-malware corporation also uses Machine Learning in their product Symantec Endpoint Protection. Symantec Endpoint Protection combines virus protection with advanced threat protection to pro-actively secure the client computers against known and unknown threats. The latest version for this is 12.1 6306.6100. The case compares the pros and cons of both the Anti-malware products.

4. CS04

A comparative Case study of BHIM & Paytm

Aniket Siddharth Patil, Benjamin Zachariah, Gunjan Abichandani, Hargovind Singh,
Harsh Priye, Indraneel Mazumdar, Naik Nitesh Sanjay

With the high penetration of the mobile network coupled with Government push for digital transactions, the adoption of cashless payments platforms like BHIM & Paytm is catching up at a rapid rate in the Indian society. Mobile applications are becoming easier for people to make payments due to the availability of high-speed internet

connectivity and affordable smartphones. While e-wallets have gained attraction and the utility of online transactions and net-banking has increased, the need for a more robust cyber-security structure for the risks associated with it has also received mainstream attention. In case of digital transactions, the damages can be huge and oftentimes, irrevocable. Certainly, the uses of Digital payments have gained popularity among consumers but have also brought in the threat of increasing cybercrimes.

5. CS05

Transforming educational IT infrastructure of Deltion College with Software Defined Networking (SDN)

Akshay Diwakar, Ketan Patel, Ankita Khilare, Saket Mangle Rohit, Kumar Chavda, Abhishek Kumar, Neenad Kale

In summers of 2015, Deltion College in Dutch city of Zwolle deployed first European Software Defined Network (SDN) based on solutions provided by HPE and KEMP technologies. The college with over 17000 students and 1200 staffs found it difficult to support its new wireless network and critical applications like Microsoft Lync, SharePoint with the legacy IT infrastructure. Hence, Deltion College adopted this technology to make its infrastructure robust and scalable enabling faster and efficient services. Software Defined Networking has undergone tremendous growth over the last few years with significant annual adoption rate of 89% as reported by IT Consulting/market research firms. This case study resolves the issues and limitations of previously established legacy network in Deltion College. The college replaced its CISCO network with a new SDN environment to overcome the issues and provide better educational facilities to the students.

6. CS06

A Top-5 U.S. Bank Detects TrickBot Malware Attack with BioCatch's Behavioural Biometrics Solution

Nirupam Jha, Nishesh Kumar, Ankit Patel, Prachi Motghare, Ashish Singh, Soumya, Akash Warkhede

With the start of 2018, BioCatch, a cyber-security company dealing in behavioral biometrics by analyzing human-device interactions to protect users and data, was

approached by a top five ranked U.S. bank with global corporate customers to leverage its next generation authentication tools to combat malware like TrickBot, a Trojan which targets windows machines. BioCatch, the cyber-security company which offered solutions and software to the banks in 2016 was affected by the Trickbot Trojan, which combines remote access (RAT) and redirection techniques to conduct sustained, multi- phased campaigns thereby slowly manipulating victim accounts to deploy a standard remote access protocol which is completely invisible to device location and geo location tools.

7. CS07

Note 7: A saga of Samsung's disgrace and how they overcame it

Abhijit Patil, Rajarshi Bhowmick, Ramasubramanian Deepak, Rishika Thapliyal, Shubham Raj Kaushik, Sreejib Mukherjee, Vaishali Singhal

This case study examines the key challenges faced by Samsung due to the Samsung Note 7 explosions – one of the most talked about incidents. Customer dissatisfaction and agony variables from Note 7 incidents were analyzed as well. It majorly emphasizes on how Samsung, one of the most renowned brands in the consumer electronics market, lost a major market share due to the Note 7 explosions, and its brand value. The key issues that were identified from this case included Quality, Customer Care and Consistency. Samsung faced a major setback during this phase. Finally, this case study also provides a glimpse as to how Samsung not only recovered from this situation, but also how they recaptured the market as an innovator and re-positioned themselves as the leader of the smart phone industry. This case aims at understanding the needs of the customer, how Samsung failed on their promise and how they regained back the trust by implementing various business strategies

8. CS08

Geo-Tracking and Geo-Fencing

Rashika Agarwal, Ritika Gupta, Santosh Kanigicherla, Sarthak Singh, Tarun Takkar, Ishan Sawaimul

This is a technology-based case study which focuses on geo-tracking and geo-fencing. In most of the cases Geo-tracking and Geo-fencing go hand in hand so we

have chosen applications and areas where geo-tracking and geo-fencing are both implemented or can be implemented. Real time monitoring and tracking has become easier and simpler with the evolution of technology in the space of geo tracking and geo fencing. Today geo fencing is not simply restricted to real time monitoring and tracking it has increased its scope to targeting and retargeting the potential customers in various segments like retail, hospitality, real estate, sports, security etc. It is driving the customers to generate more business. So, geo-fencing, if properly used it can be a win-win situation for both customers and business. This led us to studying this topic.



9. CS09- Reimagining State of the Art Classrooms

Sharang Bhedasgaonkar, Tarun Jayaraj, Ruchira Salve, Jaydeepa Biswas, Tuhin Subra Mondal, Shashi Kant

Education as a sector has not evolved much in terms of methodology. The technology has changed in accordance with the time, but the concept has always been four walls, a black or white board, a teacher standing in front of the students explaining. This trend is deep set into the hearts and minds of traditional teachers and school officials. The issues faced by students have been prevailing for some time. The issues being: limited attention span, inability of the teachers to communicate their points to students, exam focussed curriculum instead of knowledge based one. This is where the concept of state-of-the-art classroom comes in. It focuses on making learning into an experience. Using the latest technology to make learning more enjoyable is the objective of these classrooms. The objective of this case study is to isolate the issues and challenges with the current implementations with the state-of-the-art classrooms and find a solution with the upcoming technology that is 5G. 5G is the next generation of cellular network with performance that is leaps and bounds ahead of the current 4G LTE technology.



10. CS10

Are AI and IoT Transforming Retail? A Case Study on Watasale

Aniket Das, Ankit Kumar Dutta Ayushi Shukla, Gouthami V S, Maha Singh Matta, Mukul Parashar, Shreya Nair

This case study presents a background of the offline retail and e-commerce sector of India. It focuses on the issues and challenges associated with both the sectors. The study then introduces India's first fully automated AI based retail store, Watasale started from Kochi which is modelled on the same technology that Amazon used in its first ever brick and mortar store in Seattle. It then discusses the various technological solutions used by this autonomous retail store that helps to overcome the challenges associated with online retail and the e-commerce sector. These technologies include computer vision, sensory fusion, and deep learning. The case study then suggests some technologies like autonomous shopping carts, magic mirrors, and digital catalogue to further enhance the shopping experience. The case study concludes by giving reasons as to why this autonomous retail store, Watasale can solve all the issues associated with offline and online retail in India.



11. CS11

The Rise of ALTBalaji

Akanksha Jaiswal, Ayesha Kapoor, Barshekee Chanda, Deepak Choubey, Hasandeep Kaur, Karan Batra, Parth Mehta

In lieu of competition among SVOD's how a late entrant ALTBalaji which basks under the shadow of BALAJI TELEFILMS manages its survival and shows exponential growth in Indian market is what the case focuses about. It has created its niche by capturing the youth between Nagin and Narcos i.e. The Indian youth who loves to watch traditional drama in their favorable language.



12. CS12

Phished Netflix! A big black market?

Aparna Shukla, Castelino Ryan Edwin, Nakul Mathur, Deshbhratar Shraddha, Ayush Mishra, Himanshu Ranjan Tiwari, J Yamuna

I wish I had a solution; it is (password sharing) hurting the business model and monetization of these premium high value (OTT) services," Jill Rosengard Hill, Executive president at Media Research firm 'Magid' said in an interview with CNBC, worldwide in August 2018. The problem of Revenue leakage due to free first month subscriptions and password sharing faced by Netflix, one of the leading OTT players, caused losses as much as \$500m a year. An estimated 35% of millennials share passwords for streaming services. Problem Statement here is to identify the sources for Revenue leakages for Netflix and what should be their next strategy to curb the same.

13. CS13

Jio: Rural Empowerment through Digital Transformation

Nikita Mishra, Nishant Uttkarsh, Rupesh Prabhu, Prasanna Burgula,, Shaun Row, Shivangi Prasad, Sneha Sagar, Unnati Vora

On 5th September 2016 Mukesh Ambani, Chairman and Managing Director of Reliance Industries Limited (RIL) formally launched Jio 4G services in India. It was a bold move towards digitizing millions in the rural parts of the country. Jio offered high-speed internet at lower costs. With its disruptive pricing and lucrative offers, Jio set up a tough benchmark for its competitors. This case is presented to Understand the issues and challenges faced by Reliance Jio in sustaining the market leader position of the Indian telecom industry.

14. CS14

IKEA selling its furniture in developed and developing countries with the help of Artificial Intelligence (AI)

Oindrila mazumdar, Prashant Kanwat, Rishabh Sharma, Ritimoni Brahma, Riya Sachan, Shubham Chahal, Srishti Gupta, Vaibhav Pandit

IKEA, the Swedish retail, and a business marvel is capturing markets across the globe. In this case we are trying to understand the problems faced by Ikea in the developing countries in contrast with the developed countries. Here the focus is how the furniture giant, IKEA is reining its expansion efforts in developed countries with its innovative concepts and how it is reinventing itself to capture the developing markets and the problem it is facing while doing the same. IKEA is pioneered for the idea of selling the most affordable furniture which has around 389 stores worldwide and introduces around 2500 new products each year. This case talks about the problem the company is facing while entering developing countries keeping mind the recent expansion in India. IKEA has successfully opened its first store in Hyderabad, but the challenges for the company has just begun. Introduction of DIY products by IKEA has become a revolutionary trait in the Western countries but the availability of cheap labor, which provides ready to use products and an indifferent mindset of the customers in developing countries is a big challenge for the Furniture giant.



15. CS15

Machine Learning in Healthcare Sector

Parivesh Tyagi, Purvika Singh, Roshan Pandey, Shubham Sharma, Sloni, Deepak Soni, Sukshitha Rao, Yash Purohit

Cloud Medx Inc., is a software development company which provides cloud-based predictive health analytics and care coordination platform. Its platform transforms raw healthcare data into healthcare insights; leverages population's health history for

better clinical, treatment, and diagnostic outcomes; and notifies physicians when care is needed. Through this case study we try to look at the issues pertaining to healthcare sector and how Cloudmedx using Machine learning is trying to improve patient's health with minimum costs and derive meaningful and real-time insights from their data and intervene at critical junctures of patient care.

16. CS16

Implementation of cognitive analytics to Busan's Disaster Management Infrastructure to create a safer and more resilient city

Nilesh Raghuvanshi, Richa Jain, Sameeksha Sharma, Sanya Wadhwa, Shankar Bhide, Shankha Banerjee, Soumyatanu Chakraborty, Surojit Saha, Debrup Sarkar

This case study deals with the different types of natural disasters occurring in Busan, South Korea and the numerous existing emergency management systems used by the Government and some of the suggestions and solutions. Here, we have primarily dealt with the city details, its vulnerabilities and losses occurred because of the disasters. The aftermath, losses and mitigation have been discussed. This study examines the emergency management system in South Korea in terms of structural dimensions for emergency management along with the types of disasters. In this case it is discussed the theoretical issues of crisis and emergency management, but most of the case is devoted to an overview of Korean emergency management systems and the proposed strategies which can be implemented, the existing drawbacks and rehabilitation arenas

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