# Online Shopping and Consumer Satisfaction

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Abstract: Online shopping is very useful for the customer. They can purchase from their home or somewhere else from their location. The global and convenient nature of the internet makes online stores perfect market place for users. Consumers can buy a huge variety of items from online stores. Many people choose to shop online because of convenience.

KEYWORDS: Online Shopping, Consumer Satisfaction, Consumer Behavior

#### I. INTRODUCTION

With the advancements in technology in today's world, people can do various things at the comfort of their homes. One such thing is Online Shopping. It has gained a lot of spotlight especially after COVID-19. Online Shopping refers to the form of shopping in which people can easily purchase goods and services via internet. The demand and craze for online shopping has increased drastically. It is a way of purchasing things online without actually going to the physical stores. It provides a very comfortable service for its customers. The biggest advantage of online shopping is time saving. A consumer can go for online shopping at any time that best suits him/her, irrespective of their location. The online stores are open 24 hours a day, Online Shopping offers a vast variety of options which generally attracts the consumers. It has become very popular in almost all product line areas of appraisal, arts and handicrafts, books, car, rentals, computers, cosmetics, and novelties. During festive times, online shopping offers discounts on various products. The most preferred online shopping sites are - Flipkart, Amazon, Purplle, Myntra, Ajio, Nykaa etc. Consumers get both Mode of payment i.e Cash on delivery as wells as online payment option like: Net banking, Paytm, Google Pay, UPI, Phonepe and Card facility like Debit card and credit

Satisfaction in online shopping gained greater importance or value. The business of online shopping is not successful until and unless a consumer is not fully satisfied. Customer Satisfaction may be defined as the product's performance according to buyer's expectations. The satisfaction of customer depends on the actual performance relative to a buyer's expectations. Consumer's satisfaction is important as the behavior of a customer changes according to his/her experience. If the customer gets the expected product and is fully satisfied through online shopping then the behavior of his/her is positive. Similarly, if the customer didn't get the desired product or service and is not at all satisfied during online shopping, then the behavior of the customer will be

negative. The negative behavior will directly impact on the demand of online shopping. It is a simple concept that when the consumers are satisfied with a particular online retail shop, they will purchase more. Since, the experience of online consumers, due to the inability of physical contact with the product, is based upon the information provided by the online stores. Hence, the satisfaction and behavior of consumers can be affected by the information provided. It can be concluded that consumer's satisfaction and consumer's behavior are related to each other as the behavior depend on the satisfaction level of the customers.

### II. REVIEW OF LITERATURE

There Literature shows some important keywords for consumers to get influence to buy the product through the e-commerce which is known as **Electronic Business**. Appraisal theory is significantly explains consumer behavior towards shopping and provides an opportunity to analyze the evaluation process. A conceptual model based on the survey and consequences of online consumer satisfaction has been proposed and empirically proved in this study.

In online business we get to know about the customers and consumers that they are known to be kings. We get to know about the performance of a business when a consumer is satisfied with the product or their services. One of the author who's name is Oliver gives a definition on Satisfaction is that "The consumer's fulfillment response. It is the judgement that a product or service feature, or the product or service itself, provides a pleasurable level of consumption related to fulfillment".

For a customer satisfaction is basically referring to an emotional to the difference between what customers get and what they really want. The main element of the significance financial performances of the company is customer satisfaction. The customer's delight happens while the company makes surprise the customers by fulfilling the expectations. Online shopping has brought great success in the business of retail companies. If the customers do not like

any particular brand, the customer can go for other options, By this their time would be saved. The companies maintain customer satisfaction by seeking the feedback of the customers asking some questions to the customer and analyzing the online comments. These all strategies can be maintained through online.

#### III. CONCLUSION

Research shows that financial products and and product components are primarily associated with online shopping. Therefore, with the rapid development of information technology, companies must update their existing systems and update systems frequently. Our research gives managers a clear picture of the relative impact of each factor of online shopping, which can be used to identify and apply needed improvements. Organizations with future projects can minimize the risks associated with certain investments by clearly understanding their business needs, broadening their vision, and expanding their knowledge and skills to better learning and use online systems. Consumer trust in online shopping can be seen directly in consumer trust in stores. The effectiveness of trust in third-party vendors, certificate authorities, and public-key crypto infrastructure for financial security is a critical success factor in building consumer confidence in online shopping.

Online sales will continue to grow. Any website intended to sell a product or provide a service must understand the future of online shopping. It is widely accepted that modern and wealthy shoppers are driven by the surge in online sales. Many of these people have online awareness and disposable income. Learned to shop online based on price comparisons and other proportionate data.

Shoppers often become online shoppers, especially when faced with difficult situations related to the above important variables.

### IV. LIMITATIONS

The study was conducted in India, the results may not be applicable to other regions. As such, the results cannot be done in different locations to identify differences in consumer perceptions. Longitudinal data collected after interviewing the same respondents over a satisfactory period of time also shows whether satisfaction levels have changed and what, if any contributed to these changes. It would also be interesting to explore differences in respondent's perceptions through empirical research. The study focused on the perception of online shoppers. On the other hand, classifying buyers as early adopters, late adopters or laggard categories can take into account technology convenience duration, experience level, number of uses and frequency of online shopping evaluations. This opens a field for further study in the specific context of online shoppers. Because this study was based on

self-study using only closed-ended questions on the answer sheet, the researcher's ability to ask open-ended questions was limited. Without these limitations, this study could provide a better understanding of online shopping satisfaction.

#### V. SUGGESTIONS

Similar surveys can be conducted across cultures to explore cultural differences and determine if satisfaction with online shopping is the same across cultures. By doing research in this area, you can delve deeper into online shopping by comparing results and filling in gaps. However, the results of the study are the basis for future research in the field of online shopping.

### VI. REFERENCES

- 1. Rao, Yonghui, Saleem, Ayesha, Saeed, Wizra and UI Haq, Junaid (2021). Online Consumer Satifaction during COVID-19: Perspective of a Developing Country PP (1-2).
- 2. Mascarenhas, Joswin Binoj (2018). Customer Satisfaction in Online Shopping Retail Industry PP (16-17).
- 3. Mascarenhas, Joswin Binoj (2018). Consumer Satisfaction in Online Shopping Retail Industry PP (17-18).
- 4. S, Praveen Kumar. Consumer Satisfaction in Online Shopping, Wide Spectrum, Vol. 3, No. 9 (2015) PP (18-20).
- Motwani, Bharati and Haryani, Sharda. Impact of Online Shopping on Consumer Satisfaction. NUJBMS, Vol. 1, No. 1, January- March (2018) PP(13).
- Dalal, S., Poongodi, M., Lilhore, U. K., Dahan, F., Vaiyapuri, T., Keshta, I., ... & Simaiya, S. Optimized LightGBM model for security and privacy issues in cyber-physical systems. Transactions on Emerging Telecommunications Technologies, e4771.
- 7. Dalal, S., Manoharan, P., Lilhore, U. K., Seth, B., Simaiya, S., Hamdi, M., & Raahemifar, K. (2023). Extremely boosted neural network for more accurate multi-stage Cyber attack prediction in cloud computing environment. Journal of Cloud Computing, 12(1), 1-22.
- 8. Malik, A., Onyema, E. M., Dalal, S., Kumar, U., Anand, D., Sharma, A., & Simaiya, S. (2023). Forecasting students' adaptability in online entrepreneurship education using modified ensemble machine learning model. Array, 100303.
- 9. Shetty, S., & Dalal, S. (2022, December). Bi-Directional Long Short-Term Memory Neural

- Networks for Music Composition. In 2022 Fourth International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT) (pp. 1-6). IEEE.
- Dalal, S. (2023, April). The Smart Analysis of Poisson Distribution Pattern Based Industrial Automation in Industry 4.0. In 2023 International Conference on Distributed Computing and Electrical Circuits and Electronics (ICDCECE) (pp. 1-6). IEEE.
- Dalal, S., Seth, B., Radulescu, M., Cilan, T. F., & Serbanescu, L. (2023). Optimized Deep Learning with Learning without Forgetting (LwF) for Weather Classification for Sustainable Transportation and Traffic Safety. Sustainability, 15(7), 6070.
- Onyema, E. M., Lilhore, U. K., Saurabh, P., Dalal, S., Nwaeze, A. S., Chijindu, A. T., ... & Simaiya, S. (2023). Evaluation of IoT-Enabled hybrid model for genome sequence analysis of patients in healthcare 4.0. Measurement: Sensors, 26, 100679.
- Dalal, S., Manoharan, P., Lilhore, U. K., Seth, B., Simaiya, S., Hamdi, M., & Raahemifar, K. (2023). Extremely boosted neural network for more accurate multi-stage Cyber attack prediction in cloud computing environment. Journal of Cloud Computing, 12(1), 1-22.
- 14. Dalal, S., Goel, P., Onyema, E. M., Alharbi, A., Mahmoud, A., Algarni, M. A., & Awal, H. (2023). Application of Machine Learning for Cardiovascular Disease Risk Prediction. Computational Intelligence and Neuroscience, 2023.
- Dalal, S., Seth, B., Radulescu, M., Secara, C., & Tolea, C. (2022). Predicting Fraud in Financial Payment Services through Optimized Hyper-Parameter-Tuned XGBoost Model. Mathematics, 10(24), 4679.
- Dalal, S., Onyema, E. M., & Malik, A. (2022). Hybrid XGBoost model with hyperparameter tuning for prediction of liver disease with better accuracy. World Journal of Gastroenterology, 28(46), 6551-6563.
- Edeh, M. O., Dalal, S., Obagbuwa, I. C., Prasad, B. V. V., Ninoria, S. Z., Wajid, M. A., & Adesina, A. O. (2022). Bootstrapping random forest and CHAID for prediction of white spot disease among shrimp farmers. Scientific Reports, 12(1), 1-12.
- 18. Zaki, J., Nayyar, A., Dalal, S., & Ali, Z. H. (2022). House price prediction using hedonic pricing model and machine learning techniques. Concurrency and Computation: Practice and Experience, 34(27), e7342.

- Dalal, S., Onyema, E., Romero, C., Ndufeiya-Kumasi, L., Maryann, D., Nnedimkpa, A. & Bhatia, T. (2022). Machine learning-based forecasting of potability of drinking water through adaptive boosting model. Open Chemistry, 20(1), 816-828. https://doi.org/10.1515/chem-2022-0187
- Onyema, E. M., Dalal, S., Romero, C. A. T., Seth, B., Young, P., & Wajid, M. A. (2022). Design of Intrusion Detection System based on Cyborg intelligence for security of Cloud Network Traffic of Smart Cities. Journal of Cloud Computing, 11(1), 1-20.
- Dalal, S., Onyema, E. M., Kumar, P., Maryann, D. C., Roselyn, A. O., & Obichili, M. I. (2022). A Hybrid machine learning model for timely prediction of breast cancer. International Journal of Modeling, Simulation, and Scientific Computing, 2023, 1-21.
- 22. Dalal, S., Seth, B., Jaglan, V., Malik, M., Dahiya, N., Rani, U., ... & Hu, Y. C. (2022). An adaptive traffic routing approach toward load balancing and congestion control in Cloud–MANET ad hoc networks. Soft Computing, 26(11), 5377-5388.
- Edeh, M. O., Dalal, S., Dhaou, I. B., Agubosim, C. C., Umoke, C. C., Richard-Nnabu, N. E., & Dahiya, N. (2022). Artificial Intelligence-Based Ensemble Learning Model for Prediction of Hepatitis C Disease. Frontiers in Public Health. 847.
- 24. Seth, B., Dalal, S., Jaglan, V., Le, D. N., Mohan, S., & Srivastava, G. (2022). Integrating encryption techniques for secure data storage in the cloud. Transactions on Emerging Telecommunications Technologies, 33(4), e4108.
- 25. Malik, M., Nandal, R., Dalal, S., Maan, U., & Le, D. N. An efficient driver behavioral pattern analysis based on fuzzy logical feature selection and classification in big data analysis. Journal of Intelligent & Fuzzy Systems, 43(3), 3283-3292.
- Malik, M., Nandal, R., Dalal, S., Jalglan, V., & Le,
  D. N. (2022). Deriving driver behavioral pattern analysis and performance using neural network approaches. Intelligent Automation & Soft Computing, 32(1), 87-99.
- Shetty, S., & Dalal, S. (2022, December). Bi-Directional Long Short-Term Memory Neural Networks for Music Composition. In 2022 Fourth International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT) (pp. 1-6). IEEE.
- 28. Onyema, E. M., Shukla, P. K., Dalal, S., Mathur, M. N., Zakariah, M., & Tiwari, B. (2021). Enhancement of patient facial recognition through deep learning

- algorithm: ConvNet. Journal of Healthcare Engineering, 2021.
- 29. Dalal, S., & Khalaf, O. I. (2021). Prediction of occupation stress by implementing convolutional neural network techniques. Journal of Cases on Information Technology (JCIT), 23(3), 27-42.
- 30. Dalal, S., Jaglan, V., & Le, D.-N. (Eds.). (2021). Green Internet of Things for Smart Cities: Concepts, Implications, and Challenges (1st ed.). CRC Press. https://doi.org/10.1201/9781003032397.
- 31. Dahiya, N., Dalal, S., & Jaglan, V. (2021). 8 Mobility in Green Management IoT. Green Internet of Things for Smart Cities: Concepts, Implications, and Challenges, 125.
- Dahiya, N., Dalal, S., & Jaglan, V. (2021).
  Efficient Green Solution. Green Internet of Things for Smart Cities: Concepts, Implications, and Challenges, 113.
- 33. Seth, B., Dalal, S., & Dahiya, N. (2021). 4 Practical Implications. Green Internet of Things for Smart Cities: Concepts, Implications, and Challenges, 61.
- Malik, M., Nandal, R., Dalal, S., Jalglan, V., & Le,
  D. N. (2021). Driving pattern profiling and classification using deep learning. Intelligent Automation & Soft Computing, 28(3), 887-906.
- 35. Jindal, U., Dalal, S., Rajesh, G., Sama, N. U., Jhanjhi, N. Z., & Humayun, M. (2021). An integrated approach on verification of signatures using multiple classifiers (SVM and Decision Tree): A multi-classification approach.
- 36. Seth, B., Dalal, S., Le, D. N., Jaglan, V., Dahiya, N., Agrawal, A., ... & Verma, K. D. (2021). Secure Cloud Data Storage System Using Hybrid Paillier—Blowfish Algorithm. Computers, Materials & Continua, 67(1), 779-798.
- Vijarania, M., Dahiya, N., Dalal, S., & Jaglan, V. (2021). WSN Based Efficient Multi-Metric Routing for IoT Networks. In Green Internet of Things for Smart Cities (pp. 249-262). CRC Press.
- 38. Goel, M., Hayat, A., Husain, A., & Dalal, S. (2021). Green-IoT (G-IoT) Architectures and Their Applications in the Smart City. In Green Internet of Things for Smart Cities (pp. 47-59). CRC Press.
- Chawla, N., & Dalal, S. (2021). Edge AI with Wearable IoT: A Review on Leveraging Edge Intelligence in Wearables for Smart Healthcare. Green Internet of Things for Smart Cities, 205-231.
- Dahiya, N., Dalal, S., & Jaglan, V. (2021). Efficient Green Solution for a Balanced Energy Consumption and Delay in the IoT-Fog-Cloud Computing. In Green Internet of Things for Smart Cities (pp. 113-123). CRC Press.

- Dahiya, N., Dalal, S., & Jaglan, V. (2021). Mobility Management in Green IoT. In Green Internet of Things for Smart Cities (pp. 125-134). CRC Press.
- 42. Seth, B., Dalal, S., & Dahiya, N. (2021). Practical Implications of Green Internet of Things (G-IoT) for Smart Cities. In Green Internet of Things for Smart Cities (pp. 61-81). CRC Press.
- 43. Dalal, S., Agrawal, A., Dahiya, N., & Verma, J. (2020, July). Software Process Improvement Assessment for Cloud Application Based on Fuzzy Analytical Hierarchy Process Method. In International Conference on Computational Science and Its Applications (pp. 989-1001). Springer, Cham.
- Seth, B., Dalal, S., Jaglan, V., Le, D. N., Mohan, S.,
  Srivastava, G. (2020). Integrating encryption techniques for secure data storage in the cloud.
  Transactions on Emerging Telecommunications
  Technologies.
- 45. Hooda, M., & Shravankumar Bachu, P. (2020). Artificial Intelligence Technique for Detecting Bone Irregularity Using Fastai. In International Conference on Industrial Engineering and Operations Management Dubai, UAE (pp. 2392-2399).
- 46. Arora, S., & Dalal, S. (2019). An optimized cloud architecture for integrity verification. Journal of Computational and Theoretical Nanoscience, 16(12), 5067-5072.
- 47. Arora, S., & Dalal, S. (2019). Trust Evaluation Factors in Cloud Computing with Open Stack. Journal of Computational and Theoretical Nanoscience, 16(12), 5073-5077.
- 48. Shakti Arora, S. (2019). DDoS Attacks Simulation in Cloud Computing Environment. International Journal of Innovative Technology and Exploring Engineering, 9(1), 414-417.
- 49. Shakti Arora, S. (2019). Integrity Verification Mechanisms Adopted in Cloud Environment. International Journal of Engineering and Advanced Technology (IJEAT), 8, 1713-1717.
- Sudha, B., Dalal, S., & Srinivasan, K. (2019). Early Detection of Glaucoma Disease in Retinal Fundus Images Using Spatial FCM with Level Set Segmentation. International Journal of Engineering and Advanced Technology (IJEAT), 8(5C), 1342-1349.
- 51. Sikri, A., Dalal, S., Singh, N. P., & Le, D. N. (2019). Mapping of e-Wallets With Features. Cyber Security in Parallel and Distributed Computing: Concepts, Techniques, Applications and Case Studies, 245-261.

- 52. Seth, B., Dalal, S., & Kumar, R. (2019). Hybrid homomorphic encryption scheme for secure cloud data storage. In Recent Advances in Computational Intelligence (pp. 71-92). Springer, Cham.
- 53. Seth, B., Dalal, S., & Kumar, R. (2019). Securing bioinformatics cloud for big data: Budding buzzword or a glance of the future. In Recent advances in computational intelligence (pp. 121-147). Springer, Cham.
- 54. Jindal, U., & Dalal, S. (2019). A hybrid approach to authentication of signature using DTSVM. In Emerging Trends in Expert Applications and Security (pp. 327-335). Springer, Singapore.
- 55. Le, D. N., Seth, B., & Dalal, S. (2018). A hybrid approach of secret sharing with fragmentation and encryption in cloud environment for securing outsourced medical database: a revolutionary approach. Journal of Cyber Security and Mobility, 7(4), 379-408.
- 56. Sikri, A., Dalal, S., Singh, N. P., & Dahiya, N. (2018). Data Mining and its Various Concepts. Kalpa Publications in Engineering, 2, 95-102.
- 57. Sameer Nagpal, S. (2018). Analysis of LrMu Power Algorithm in the Cloud Computing Environment using CloudSim Toolkit. International Journal of Research in Electronics and Computer Engineering (IJRECE), 6(3), 1175-1177.
- 58. Nagpal, S., Dahiya, N., & Dalal, S. (2018). Comparative Analysis of the Power Consumption Techniques in the Cloud Computing Environment. Journal Homepage: http://www.ijmra.us, 8(8), 1.
- Kumar, N., Dalal, S., & Dahiya, N. (2018).
  Approach of Lion Optimization Algorithm for Efficient Load Balancing in Cloud Computing. Journal Homepage: http://www.ijmra.us, 8(8), 1.
- 60. Sameer Nagpal, S. (2018). Comparison of Task Scheduling in Cloud Computing Using various Optimization Algorithms. Journal of Computational Information Systems, 14(4), 43-57.
- 61. Arora, S., & Dalal, S. (2018). Hybrid algorithm designed for handling remote integrity check mechanism over dynamic cloud environment. International Journal of Engineering & Technology, 7(2.4), 161-164.
- 62. Kukreja, S., & Dalal, S. (2018). Modified drosophila optimization algorithm for managing re-sources in cloud environment. International Journal of Engineering & Technology, 7(2.4), 165-169.
- 63. Jindal, U., Dalal, S., & Dahiya, N. (2018). A combine approach of preprocessing in integrated signature verification (ISV). International Journal of Engineering & Technology, 7(1.2), 155-159.

- Nagpal, S., Dahiya, N., & Dalal, S. (2018). Comparison of Task Scheduling in Cloud Computing Using various Optimization Algorithms. Journal of Computational Information Systems ISSN, 1553-9105.
- 65. Jindal, U., Dalal, S., & Dahiya, N. (2018). A combine approach of preprocessing in integrated signature verification (ISV). International Journal of Engineering & Technology, 7(1.2), 155-159
- 66. Shakti Arora, S. (2018). Resolving problem of Trust context in Cloud Computing. International Journal of Engineering Research in Computer Science and Engineering (IJERCSE), 5(1), 138-142.
- 67. Dalal, S., Dahiya, N., & Jaglan, V. (2018). Efficient tuning of COCOMO model cost drivers through generalized reduced gradient (GRG) nonlinear optimization with best-fit analysis. In Progress in Advanced Computing and Intelligent Engineering (pp. 347-354). Springer, Singapore
- 68. Seth, B., & Dalal, S. (2018). Analytical assessment of security mechanisms of cloud environment. In Progress in Advanced Computing and Intelligent Engineering (pp. 211-220). Springer, Singapore.
- 69. Kukreja, S., & Dalal, S. (2018). Performance analysis of cloud resource provisioning algorithms. In Progress in Advanced Computing and Intelligent Engineering (pp. 593-602). Springer, Singapore.
- 70. Rani, U., Dalal, S., & Kumar, J. (2018). Optimizing performance of fuzzy decision support system with multiple parameter dependency for cloud provider evaluation. Int. J. Eng. Technol, 7(1.2), 61-65.
- 71. Dahiya, N., Dalal, S., & Khatri, S. (2017). An Enhanced Bat Algorithm for Data Clustering Problems. International Journal of Advanced Research in Computer Science, 8(3).
- 72. Dahiya, N., Dalal, S., & Khatri, S. (2017). Data clustering and its Application to numerical function optimization algorithm. International Journal of Advanced Research in Computer Science, 8(1).
- 73. Arora, S., & Dalal, S. (2017). Adaptive Model For Integrity Verification In Cloud Computing System. International Journal of Advanced Research in Computer Science, 8(1), 233-236.
- 74. Neeraj Dahiya, S. (2017). Numerical Function Optimization: Model, Procedure And Uses. International Journal of Engineering Science and Technology (IJEST), 9(4), 266-270.
- 75. Dahiya, N., Dalal, S., & Khatri, S. (2016). Refinement with Image clustering using Self-Organizing Map and Numerical Function Optimization. International Journal of Computer Science and Information Security, 14(11), 909.

- 76. Neeraj Dahiya, S. (2016). A Review on Numerical function optimization Algorithm and its Applications to Data Clustering & Classification. International Journal of Recent Research Aspects, 3(3), 115-121.
- 77. Arora, S., & Dalal, S. (2016). Novel Approach of Integrity Verification in Dynamic Cloud Environment. International Journal of Computer Science and Information Security, 14(8), 207.
- Dalal, S., & Kukreja, S. (2016). Genetic Algorithm based Novel approach for Load Balancing problem in Cloud environment. International Journal of computer science and information security, 14(7), 88
- 79. Arora, S., & Dalal, S. (2016). Study of Integrity Based Algorithm in Decentralized Cloud Computing Environment. International Journal of Institutional & Industrial Research, 1(1), 15-17.
- 80. Vishakha, S. D. (2016). Performance Analysis of Cloud Load Balancing Algorithms. International Journal of Institutional and Industrial Research, 1(01), 1-5.
- 81. Dalal, S., & Jindal, U. (2016, March). Performance of integrated signature verification approach. In 2016 3rd International Conference on Computing for Sustainable Global Development (INDIACom) (pp. 3369-3373). IEEE.
- 82. Dahiya, N., Dalal, S., & Tanwar, G. (2016, March). Refining of image using self-organizing map with clustering. In AIP Conference Proceedings (Vol. 1715, No. 1, p. 020064). AIP Publishing LLC.
- 83. Dahiya, N., Dalal, S., & Khatri, S. (2016). A Review on Numerical function optimization Algorithm and its Applications to Data Clustering & Classification. International Journal of Recent Research Aspects, 3(3), 111-115.
- 84. Arora, S., & Dalal, S. (2016). Enhanced Privacy Preserving Access Control in the Cloud. International Journal of Recent Research Aspects, 3(4), 66-70.
- 85. Dahiya, N., Dalal, S., Khatri, S., & Kumar, Y. (2016). Cat Swarm Optimization: Applications And Experimental Illustrations To Data Clustering. International Journal of Control Theory and Applications, 9(41), 759-765.
- Rani, U., & Dalal, S. (2016). Neural Network Applications in Design Process of Decision Support System. International Journal of Recent Research Aspects, 4(2), 40-44.
- 87. Seth, B., & Dalal, S. (2016). Designing Hybrid Security Architecture in Multi Cloud System. International Journal of Control Theory and Applications, 9(41), 767-776.

- 88. Seth, B., & Dalal, S. (2016). Analysis of cryptographic approaches. International Journal of Recent Research Aspect, 3(1), 21-24.
- 89. Jindal, U., & Dalal, S. (2016). Survey on Signature verification and recognition using SIFT and its variant. International Journal of Recent Research Aspects, 3(3), 26-29.
- 90. Sharma, P., & Dalal, S. (2014). Reviewing MANET Network Security Threats. identity, 25-30.
- 91. Sharma, D., Dalal, S., & Sharma, K. K. (2014). Evaluating Heuristic based Load Balancing Algorithm through Ant Colony Optimization. environment, 5-9.
- 92. Sharma, D., Sharma, K., & Dalal, S. (2014). Optimized load balancing in grid computing using tentative ant colony algorithm. International Journal of Recent Research Aspects, 1(1), 35-39.
- 93. Jindal, K., Dalal, S., & Sharma, K. K. (2014, February). Analyzing spoofing attacks in wireless networks. In 2014 Fourth International Conference on Advanced Computing & Communication Technologies (pp. 398-402). IEEE.
- 94. Dalal, Surjeet & Srinivasan, S, Approach of multi agent system in controlling bullwhip effect of supply chain management system using case based reasoning, Department of Computer Science, Suresh Gyan Vihar University, 20/01/2014, http://hdl.handle.net/10603/36464
- 95. Sharma, S., & Dalal, S. (2014). Recognition and identification schemes for the development of Eigen feature extraction based iris recognition system. International Journal of Recent Research Aspects ISSN, 2349-7688.
- Sharma, P., Sharma, K., & Dalal, S. (2014).
  Preventing Sybil Attack in MANET using Super nodes approach. International Journal of Recent Research Aspects, 1(1), 30-34.
- 97. Simi Gupta, D., & Dalal, S. (2014). Efficient broker scheduling in Cloud Computing. International Journal of Recent Research Aspects, 1(2), 74-77.
- 98. Sharma, S., & Dalal, S. (2014). Feature Recognition from Histogram and Eigen Algorithm in Digital Image Processing.
- 99. Gupta, S., Sharma, K. K., & Dalal, S. (2014). Multi objective parameters for real time scheduling in cloud computing.
- 100. Mittal, A., & Dalal, S. (2014). Implying p-Cure algorithm in case retrieval stage of the case-based reasoning. International Journal of Recent Research Aspects, 3(3), 91-98.
- 101. Mittal, A., Sharma, K. K., & Dalal, S. (2014). Approach of BPEL in supply chain activities for

- managing bullwhip effect of SCM system. Int. J. Res. Asp. Eng. Manag, 1(2), 26-30.
- 102. Sharma, P., & Dalal, S. (2014). Shortest Path Algorithms Technique for Nearly Acyclic Graphs. International Journal of Recent Research Aspects, 3(3), 36-39.
- 103. Dalal, S., Jaglan, V., & Sharma, K. K. (2014). Designing architecture of demand forecasting tool using multi-agent system. International Journal of Advanced Research in Engineering and Applied Sciences, 3(1), 11-20.
- 104. Sheikh, M., Sharma, K., & Dalal, S. (2014). Efficient method for WiMAX soft handover in VOIP and IPTV. International Journal of Research Aspects of Engineering & Management, 1(2), 5-48.
- 105. Kumar, S., & Dalal, S. (2014). Optimizing Intrusion Detection System using Genetic Algorithm. International Journal of Research Aspects of Engineering and Management ISSN, 2348-6627.
- 106. Mittal, A., Sharma, K. K., & Dalal, S. (2014). Applying clustering algorithm in case retrieval phase of the case-based reasoning. International Journal of Research Aspects of Engineering and Management, 1(2), 14-16.
- 107. Dalal, S., Jaglan, V., & Sharma, K. K. (2014). Integrating Multi-case-base-reasoning with Distributed case-based reasoning. International Journal of Advanced Research in IT and Engineering ISSN, 2278-6244.
- Saini, A., Sharma, K. K., & Dalal, S. (2014). A survey on outlier detection in WSN. International Journal of Research Aspects of Engineering and Management ISSN, 2348-6627.
- 109. Sharma, P., Sharma, D. K., & Dalal, S. (2014). Preventing Sybil Attack In MANET Using Super Node Using Approach. International Journal of Recent Research Aspects, ISSN, 2349-7688.
- 110. Chahar, P., & Dalal, S. (2013). Deadlock resolution techniques: an overview. International Journal of Scientific and Research Publications, 3(7), 1-5.
- 111. Dalal, Surjeet, Keshav Jindal, and Monika Nirwal. "Developing Flexible Decision Support Systems Using Case-Base Reasoning System." International Journal of Engineering and Management Research (IJEMR) 3.4 (2013): 13-17.
- 112. Dalal, S., & Sharma, K. K. (2013). Simulating supply chain activities in multi-agent based supply chain management system with plasma simulator.

- International journal of Computer Science & Communication, 4(1), 80-85.
- 113. Dalal, S., Tanwar, G., & Alhawat, N. (2013). Designing CBRBDI agent for implementing supply chain system. system, 3(1), 1288-1292.
- 114. Dalal, S., & Athavale, V. (2012). Challenging Bullwhip Effect of Supply Chain Through Case Based Multi Agent System: A Review. International Journal of Advanced Research in Computer Science and Software Engineering, 2(12), 267-272.
- 115. Dalal, S., Tanwar, G., & Jindal, K. (2012). Agent Oriented Programming In Trading System Automation. International Journal of Research in IT, Management and Engineering, 2(8), 51-59.
- 116. Dalal, Surjeet, and Vijay Athavale. "Analysing Supply Chain Strategy Using Case-Based Reasoning." Journal of Supply Chain Management Systems 1.3 (2012).
- 117. Jindal, K., Dalal, S., & Jaglan, V. (2012). Comparative Study On IEEE 802.11 Wireless Local Area Network Securities. International Journal of Advanced Research in Computer Science, 3(1).
- 118. Jindal, K., Dalal, S., & Tanwar, G. (2012). Congestion Control Framework in Ad-Hoc Wireless using Neural Networks in QoS. International Journal of Research in Computer Engineering and Electronics, ISSN, 15-18.
- 119. Dalal, S., Athavale, V., & Jindal, K. (2012). Designing Case-based reasoning applications with Colibri Studio. International Journal of Research in Computer Engineering and Electronics, 1(1), 15-18.
- 120. Jaglan, V., Dalal, S., & Srinivasan, S. (2011). Improving performance of business intelligence through case based reasoning. International Journal of Engineering Science and Technology, 3(4), 2880-2886.
- 121. Jaglan, V., Dalai, S., & Srinivasan, S. (2011). Enhancing security of agent-oriented techniques programs code using jar files. International Journal on Computer Science and Engineering, 3(4), 1627-1632.
- 122. Dalal, S., Athavale, V., & Jindal, K. (2011). Case retrieval optimization of Case-based reasoning through Knowledge-intensive Similarity measures. Int. J. Comput. Appl, 34(3), 12-18.
- 123. Surjeet Dalal, V., & Kumar, S. (2010). Designing of business tool using intelligent agent. In National Conference Advanced Computing & Communication tech ACCT (pp. 751-754).