







RESEARCH ARTICLE | JULY 14 2022

Categorizing and relating implementation challenges for realizing blockchain applications in government

Sunil Luthra ; Marijn Janssen ; Nripendra P. Rana  ; Gunjan Yadav ; Yogesh K. Dwivedi 

+ Author & Article Information

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Purpose

Blockchain technology (BCT) can be used for a wide variety of applications across domains and can bring many benefits. BCT-based applications can be beneficial for the government as well as businesses. Despite the many promises, BCT implementation lags behind. The purpose of this research is to identify a roadmap of critical implementation challenges that influence BCT implementation by governments.

Design/methodology/approach

The study develops an ISM-based model spread across seven levels to analyze the inter-relationship among the selected BCT challenges. The MICMAC analysis further helps in evaluating the variables based on their driving power and dependencies.

Findings

The findings show that all challenges have a strong impact on implementing BCT. The foundation for implementation BCT is to define standards and develop appropriate regulations. Next, the findings show the need for a shared infrastructure meeting the basic technical and societal requirements and developing viable business models to advance BCT implementation. Many challenges hinder the development of blockchain applications meeting the technical and ethical requirements.

Originality/value

Existing research has analyzed the relationship among challenges. To the best of the authors' knowledge this is the first paper to collate these implementation challenges and incorporate them to develop a hierarchical model using



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07/12/22	IMPS-234112691500-YASHJIGNESHSHAH-BARB-X XXXXXXXXXX3496-DEGREE	0000234112691500	07/12/22		3,500.00	810,880.69
07/12/22	UPI-VIRAL PATEL-9723941164@YBL-BARB0NEWA HM-234190649745-PAYMENT FROM PHONE	0000234190649745	07/12/22		3,500.00	814,380.69
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07/12/22	BULK SALARY SWARANIM STARTUP DR - 029929 90000043 - PALDI SALARY TRANSITORY A C	00000000000002777	07/12/22	645,000.00		172,880.69
07/12/22	UPI-DAKSH RANA-9429717717@PAYTM-PYTM0123 456-234147503724-YATHARTHSINH CHAUH	0000234147503724	07/12/22		3,500.00	176,380.69
07/12/22	NEFT CR-YESB0000001-EASEBUZZ PVT LTD NOD AL A/C-SWARANIM STARTUP AND INNOVATION-Y ESB23416574276	0YESB23416574276	07/12/22		500.00	176,880.69
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07/12/22	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB07195802791026	07/12/22		800,000.00	977,080.69
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08/12/22	UPI-DEEPKUMAR K KHOKHAR-DEEPKHOKHAR12620 04@OKHDFCBANK-HDFC0006476-234256768024-U PI	0000234256768024	08/12/22		3,500.00	984,080.69
08/12/22	UPI-CHANDUBHAI PARSOTTAM-CHANDUBHAIKHATR A6312@OKHDFCBANK-BARB0VJKNAG-23425762802 8-CONVOCAION FEES	0000234257628028	08/12/22		3,500.00	987,580.69
08/12/22	GUNJAN YADAV - CHQ PAID - GANDHINAGAR	00000000000002788	08/12/22	10,000.00		977,580.69

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[Monika Vyas](#) , [Gunjan Yadav](#) & [Sunil Pipleya](#)

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Abstract

Circular economy and circular supply chain management is demand for preserving natural resources for future generation globally. This circular supply chain and its management emphasizes on 9R framework, which initially propagated from 3R framework with clear vision toward environmental education and awareness, resource utilization, waste of one can be input to other vision. Further circular economy promotes due to technology revolution with IR4, advancement due to growing virtual world with ICT along with digitization needs to lend toward any one or all three pillars of



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Statement From : 01/03/2023 To : 31/03/2023

29/03/23	UPI-PRAJAPATI ANKITBHAI-PRAJAPATIANKITKU MAR99748@OKICICI-BARB0MARPAT-30887922916 8-UPI	0000308879229168	29/03/23		20,000.00	2,641,407.65
29/03/23	SURESH - CHQ PAID - CHANDLODIYA	0000000000003329	29/03/23	415.00		2,640,992.65
29/03/23	FT - DR - 18411000015199 - SHIVRAJ KUNWA R	0000000000003360	29/03/23	150,000.00		2,490,992.65
29/03/23	NEFT DR-CNRB0002688-ANKITA MAZUMDAR-TRIM ANDIR AD-N088232391322292	0000000000003359	29/03/23	8,000.00		2,482,992.65
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29/03/23	CHQ DEP - MICR 8 CLEARING - NAVRANGPURA: BANK OF BARODA :BANK OF BARODA	0000000000003459	30/03/23		20,000.00	2,402,992.65
29/03/23	CHQ DEP - MICR 8 CLEARING - NAVRANGPURA: SURENDRASINH K CHAVDA :STATE BANK OF IN DIA	0000000000306334	30/03/23		20,000.00	2,422,992.65
29/03/23	EASEBUZZ PRIVA-A173290323PTLNCIMOFJ	0000303298985019	29/03/23		1,000.00	2,423,992.65
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29/03/23	ACH C- T4 POSTMAT SCHSHIP S-C03238062132	0000000286665341	29/03/23		266,000.00	2,690,492.65
30/03/23	CHQ PAID-MICR CTS-MU-RUCHITA BHIMRAO WAR	0000000000003357	30/03/23	20,000.00		2,670,492.65
30/03/23	CHQ PAID-MICR CTS-MU-GUNJAN YADAV	0000000000003063	30/03/23	5,000.00		2,665,492.65
30/03/23	CHQ PAID-MICR CTS-MU-PRINTWELL OFFSET AN	0000000000003333	30/03/23	16,938.00		2,648,554.65
30/03/23	CHQ PAID-MICR CTS-MU-BALIBEN BALAJI THAK	0000000000003270	30/03/23	3,885.00		2,644,669.65
30/03/23	I/W CHQ RET-AMOUNTS IN WORDS AND FIGURES	0000000000003357	30/03/23		20,000.00	2,664,669.65
30/03/23	NEFT CR-SBIN0013359-RED AND WHITE INST O F ENG AND TECHN-SWARARNIM STARTUP AND IN NOVATION UN-SBIN123089864817	SBIN123089864817	30/03/23		30,000.00	2,694,669.65
30/03/23	IMPS-308914771728-KULDIPKUMAR PARESHBH-S BIN-XXXXXXX7534-MOBLTA8ANM9PRUP16M	0000308914771728	30/03/23		20,000.00	2,714,669.65
30/03/23	UPI-SADHU JANAK SURESHBH-9974867884@AXL- SBIN0000535-308900326563-PAYMENT FROM PH	0000308900326563	30/03/23		14,500.00	2,729,169.65

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LITERATURE REVIEW | APRIL 04 2023

Green Lean Six Sigma for sustainability improvement: a systematic review and future research agenda 🛒

Vishwas Yadav; Mahender Singh Kaswan; Pardeep Gahlot ✉; Raj Kumar Duhan;
Jose Arturo Garza-Reyes; Rajeev Rath; Rekha Chaudhary; Gunjan Yadav

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<https://doi.org/10.1108/IJLSS-06-2022-0132> Article history 🕒

Purpose

The main purpose of this study is to explore different aspects of the Green Lean Six Sigma (GLSS) approach, application status and potential benefits from a comprehensive review of the literature and provide an avenue for future research work. This study also provides a conceptual framework for GLSS.

Design/methodology/approach

To do a systematic analysis of the literature, a systematic literature review methodology has been used in this research work. From the reputed databases, 140 articles were identified to explore hidden aspects of GLSS. Exploration of articles in different continents, year-wise, approach-wise and journal-wise was also done to find the execution status of GLSS.

Findings

This study depicts that GLSS implementation is increasing year by year, and it leads to considerable improvement in all dimensions of sustainability. Enablers, barriers, tools and potential benefits that foster the execution of GLSS in industrial organizations are also identified based on a systematic review of the literature.

Originality/value

The study's uniqueness lies in that, to the best of the authors' knowledge, this study is the first of its kind that depicts the execution status of GLSS, and its different facets, explores different available frameworks and provides avenues for



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24/06/22	CHQ PAID-MICR CTS-MU-TORRENT POWER LIMIT	0000000000001098	24/06/22	5,870.00	137,434.37
24/06/22	CHQ PAID-MICR CTS-MU-YASH CHAUHAN	0000000000001082	24/06/22	2,881.00	134,553.37
24/06/22	CHQ PAID-MICR CTS-MU-KUNTABEN BARIYA	0000000000001077	24/06/22	7,620.00	126,933.37
24/06/22	CASH DEP MEET KALOL	0000000000000000	24/06/22		5,470.00
24/06/22	FT - DR - 50100482414580 - PATEL DHRUV	0000000000001974	24/06/22	9,850.00	122,553.37
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24/06/22	EASEBUZZ PRIVA-A333240622PTORPIAQEC	0000206248251830	24/06/22		500.00
24/06/22	UPI-SEJALBEN DESAI-9316333064@PAYTM-GSCB 0BKD001-217526909373-NA	0000217526909373	24/06/22		30,000.00
24/06/22	206248566210GANESH PLY	N175222011087824	24/06/22	10,124.00	146,429.37
25/06/22	UPI-RUHEED HASAN-RUHEEDHASAN798@OKSBI-S BIN0004017-217610944117-FOR NOC	0000217610944117	25/06/22		500.00
27/06/22	CHQ PAID-MICR CTS-MU-TAPODAN MITESH	0000000000001092	27/06/22	1,987.00	144,942.37
27/06/22	UPI-SUNDER LAL LOHAR-SUNDER1978.1978@OKA XIS-INDB0000111-217835955229-HEMANT PATE L	0000217835955229	27/06/22		3,500.00
27/06/22	EASEBUZZ PRIVA-A614270622PTSDZZAN29	0000206270022812	27/06/22		5,000.00
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27/06/22	FT - DR - 50100524840710 - CHAUHAN MALTI BEN PANJAKBHAI	0000000000001652	27/06/22	4,133.00	151,309.37
27/06/22	FT - DR - 50200062042442 - VINAYAK LIGHT ING	0000000000001670	27/06/22	161,500.00	-10,190.63
27/06/22	NEFT DR-ICIC0000189-GUNJAN YADAV-TRIMANDIR AD-N178222013079964	0000000000001668	27/06/22	5,000.00	-15,190.63
27/06/22	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB27161601977705	27/06/22		500,000.00
27/06/22	NEFT DR-VARA0289014-VANDIT DEVJIBHAI NAV ADIYA-TRIMANDIR AD-N178222013073618	0000000000001667	27/06/22	6,000.00	478,809.37
27/06/22	IMPS-217817947477-FENIL AKSHESHKUMAR P-I	0000217817947477	27/06/22		3,500.00

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Resources Policy

Volume 68, October 2020, 101776

Industry 4.0 and the circular economy: Resource melioration in logistics

Surajit Bag ^a , **Gunjan Yadav** ^b , Lincoln C. Wood ^{c d}  , Pavitra Dhamija ^e , Sudhanshu Joshi ^f [Show more](#) 

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Highlights

- Study of Industry 4.0 enablers and business logistics sustainability.
- Partial least squares based structural equation modeling (PLS-SEM) and 150 survey responses.
- Industry 4.0 enablers have strong impact on intelligent logistics and dynamic remanufacturing.
- Pathways for investments in business sustainability and resource melioration in logistics.

Abstract

Mining and mineral resources help provide the requirements of everyday life by contributing to essential products and services. In the era of fourth industrial revolution, the trend in logistics is toward a smart logistics system. Therefore, it becomes essential to understand how Industry 4.0 resources influence smart logistics, i.e., instrumented logistics, interconnected logistics, and intelligent logistics. This study investigates how Industry 4.0 resources impact smart logistics and further influence dynamic remanufacturing and green manufacturing capability and, the final effect on business logistics sustainability. Survey data were collected from 150 respondents using an online survey of South African executives in firms operating mines, quarries, and processing plants.



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05/01/21	NEFT RETURN-ACCOUNT DOES NOT EXIST-PRAJA PATI NISHANT S-BKDN21005262712	N005211362691147	05/01/21	1,000.00	77,319.00
05/01/21	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN HERITABLE TRUST	IB05141845244747	05/01/21	200,000.00	277,319.00
05/01/21	NEFT RETURN-BENEFICIARY NAME DIFFERES-ME ET SHAH-T368210050230393	N005211362691170	05/01/21	1,000.00	278,319.00
05/01/21	NEFT RETURN-ACCOUNT DOES NOT EXIST-SHAH KEVAL K-B015203710000057	N005211362691151	05/01/21	1,000.00	279,319.00
05/01/21	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN HERITABLE TRUST	IB05154035461841	05/01/21	500,000.00	779,319.00
05/01/21	RTGS DR-SBIN0001109-INDIAN INSTITUTE OF TECHNOLOGY BOM-PALDI,AHMEDA-HDFCR5202101 0567532517	0000000000000115	05/01/21	590,000.00	189,319.00
05/01/21	NEFT DR-SBIN0016029-KARAN ASHOKKUMAR WAD HWANI-PALDI,AHMEDA-N005211363176671	0000000000000114	05/01/21	4,500.00	184,819.00
05/01/21	NEFT CR-IOBA0000125-GAODE CHINMAI-SWARAN IM STARTUP AND INNOVATION UN-IOBAN210050 89528	IOBAN21005089528	05/01/21	1,000.00	185,819.00
05/01/21	NEFT REJ-INVALID IFSC 30380100011774	0000000000000000	05/01/21	1,000.00	186,819.00
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05/01/21	NEFT REJ-FC REJECT 50100112632324	0000000000000000	05/01/21	1,000.00	188,819.00
06/01/21	CHQ PAID-MICR CTS-MU-SWAMINARAYAN TRADIN	0000000000000113	06/01/21	13,103.00	175,716.00
07/01/21	NEFT DR-ICIC0000189-GUNJAN YADAV-PALDI,AH MEDA-N007211366277118	0000000000000033	07/01/21	10,000.00	165,716.00
11/01/21	CHQ PAID-MICR CTS-MU-BAJRANG	0000000000000118	11/01/21	50,000.00	115,716.00
12/01/21	CHQ PAID-MICR CTS-MU-MANGILAL CORP	0000000000000023	12/01/21	1,115.00	114,601.00

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Key resources for industry 4.0 adoption and its effect on sustainable production and circular economy: An empirical study

Surajit Bag ^a  , **Gunjan Yadav** ^b  , Pavitra Dhamija ^c  , Krishan Kumar Kataria ^d  

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Highlights

- Develop a testable model using RBV theory as a theoretical lens.
- Industry 4.0 adoption has a positive relationship with sustainable production.
- Sustainable production can help to develop circular economy capabilities.
- Firms need to engage suppliers into various R&D programs to develop successful CE business models.

Abstract

Developing countries like South Africa is aiming to be a nation that has fully harnessed the potential of Industry 4.0 technological innovation to grow the economy and uplift people of the country. The country has motivated manufactures to focus on smart manufacturing considering the sustainable development aspects to develop circular economy capabilities. However, manufacturers are facing various resource related challenges, which has slowed down the progress of Industry 4.0 adoption. This study aspires to develop a theoretical model linking key resources for Industry 4.0 adoption that are essential to drive technological progress; and its effect on sustainable production and



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22/03/21	FT - DR - 50200013624663 - GETMYUNI EDUC ATION SERVICES PVT. LTD.	0000000000000142	22/03/21	580,000.00		2,413,634.00
22/03/21	NEFT DR-ICIC0000189-GUNJAN Y ADAV-PALDI, AHME DA-N081211447218099	0000000000000072	22/03/21	5,500.00		2,408,134.00
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Exploring indicators of circular economy adoption framework through a hybrid decision support approach

Gunjan Yadav ^a✉, Sachin Kumar Mangla ^b✉, Arijit Bhattacharya ^c✉, Sunil Luthra ^d✉

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Highlights

- Provide 31 circular economy (CE) indicators.
- Propose a framework to improve CE adoption process.
- Explores a case analysis of an Indian manufacturing industry.
- Analyse the proposed framework through hybrid BWM-DEMATEL approach.
- Demonstrate intensity and inter-relationships among the CE indicators.

Abstract

Circular economy (CE) focuses on a circular approach to energy and material resources, which provides economic, environmental and social benefits for manufacturing organisations. CE adoption in emerging economies facilitates in substantial economic growth through appropriate utilisation of energy and material resources across manufacturing industries. This study identifies CE indicators in the context of an emerging economy. The study further develops a framework for the adoption of CE and tests it through a hybrid Best Worst Method and Decision-Making Trial and Evaluation Laboratory approach. The framework is validated through an Indian manufacturing case



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12/01/21	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN HERITABLE TRUST	IB12113941752052	12/01/21		200,000.00	314,601.00
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Repurposing production operations during COVID-19 pandemic by integrating Industry 4.0 and reconfigurable manufacturing practices: an emerging economy perspective

Rajesh Pansare¹ · Gunjan Yadav²

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Abstract

The Covid-19 pandemic has had a significant impact on manufacturing industries and supply chains. Manufacturing industries are struggling to repurpose their production activities and ramp up the supply chain to bridge the demand–supply gap. A framework that can cover Industry 4.0 technologies and reconfigurable manufacturing system (RMS) practices is desperately needed. The current study focuses primarily on the framework that could assist managers in decision-making and the step-wise adoption of RMS during repurposing. The extensive literature review was conducted to identify the prominent Industry 4.0 technologies and RMS practices. To compute the weights of selected practices, the novel Pythagorean fuzzy analytical hierarchy process (AHP) was used; while the Pythagorean fuzzy combined compromise solution (CoCoSo) method was used to prioritize the selected performance metrics. To test the robustness of the developed framework, a sensitivity analysis was carried out. According to the findings, smart factory adoption (SFA) practices were the most significant among the major criteria, followed by reconfiguration practices (RCP), soft computing practices (SCP), sustainable & circular economy practices (SCE), and quality practices (QPS). SFA's advanced technologies and SCP's computer algorithms certainly assist in the repurposing of production activities (RPO). The results of the sensitivity analysis demonstrated the robustness of the developed framework. The developed framework will be useful during RPO, and the identified practices can make a significant contribution. Advanced technologies and sustainable practices can help to improve the organization's work culture. Managers will be able to evaluate the organization's performance with the help of identified performance metrics. The work presented here may be the first attempt to develop a framework for RPO in a pandemic situation.

Keywords Reconfigurable manufacturing system · Industry 4.0 · Repurposing of production operations · Pythagorean fuzzy AHP · CoCoSo method

1 Introduction

The pandemic caused by COVID 19 has had a negative impact on a variety of industries, including manufacturing, tourism, healthcare, and many others. The spending power of a large population has been significantly reduced as a result

of the lockdown and quarantine period, which has resulted in a stagnant economy in the majority of regions (Shen et al. 2020). The coronavirus outbreak has also had a significant impact on several manufacturing industries in many countries, and some researchers have developed an accounting index to assess the impact of the virus (He et al. 2020). As a result, manufacturing industries are suffering from disrupted supply chains, a shortage of manpower due to the lockdown, a shortage of raw materials, highly dynamic market needs, disrupted transportation facilities, reduced customer purchasing power, etc. The global economy's growth rate is expected to fall up to –3% in 2020, potentially leading to a global recession. Furthermore, the manufacturing industries are expected to lose around 10.7% in 2020, while the service industries are expected to lose around 16% (Gu et al. 2020). As a result, there is a need to repurpose the manufacturing

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OVERVIEW PAPER | MAY 31 2024

Comparison of different treatment methods which are used for phenol removal: A mini review

Mahesh Patel; Dharmendra Patel; Parwathi Pillai



Water Practice and Technology (2024) 19 (7): 2761–2773.

<https://doi.org/10.2166/wpt.2024.143> Article history  Views  PDF Share  Tools 

ABSTRACT



This article aims to provide a comprehensive overview of the various adsorption methods developed over time for phenol removal. Phenolic substances pose significant threats to aquatic ecosystems, wildlife, and human health. If not properly controlled and treated before discharge, industrial effluents contaminated with phenol can cause detrimental effects on surface and groundwater resources. In comparison with advanced treatments such as ozonation, UV therapy, and the Fenton process, which are associated with higher energy costs, conventional physicochemical treatment methods like adsorption, chemical treatment, membrane filtration, and distillation offer superior removal efficiencies. Pistachio nut shell ash, Moringa peregrina tree shell ash, agricultural fibres, red mud, low-cost clay, olive mill waste, natural zeolites, rubber seed coat, peat, fly ash, and bentonite are just a few examples of the adsorbents and adsorption processes that have been used in literature to remove phenol and its derivatives. For instance, biosorption has been shown to be a successful technique with room for further study in this area regarding regeneration and cost-effectiveness. As a result, numerous researchers in the field of phenolic treatment have emphasized the effectiveness of physicochemical processes over time. Furthermore, additional investigation is required to determine the practical application of inexpensive adsorbents on commercial basis.

PDF

Help

HIGHLIGHTS



- Phenolic substances are extremely harmful to aquatic environments, animals, and people.
- Comparison of physicochemical treatment methods like adsorption, chemical and membrane

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06/07/24	FT - DR - 50100257175910 - THAKER MAHARS HI MAHESHKUMAR	0000000000006477	06/07/24	2,530.00	1,594,351.49
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Artificial Intelligence and Machine Learning for EDGE Computing

2022, Pages 305-314

Chapter 20 - A real-time performance monitoring model for processing of IoT and big data using machine learning

Eesha Mishra ^a, Santosh Kumar ^b

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<https://doi.org/10.1016/B978-0-12-824054-0.00023-X> ↗

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Abstract

In this chapter, a real-time monitoring model that uses IoT-based sensors, big data handling, and hybrid model is proposed. In the current scenarios, an IoT-based sensor that gathers temperature, mugginess, accelerometer, and spinner information was created. The qualities of IoT-created sensor information from the assembling procedure are continuous, huge sums, and unstructured sort. The proposed huge information preparing stage uses Apache Kafka as a message line. Besides, for the proposed crossover forecast model, density-based spatial clustering of applications with noise (DBSCAN)-based exception location and random forest characterization were utilized to expel anomaly sensor information and give issue recognition during the assembling procedure, separately. The Proposed model is inspired by a model that was applied and tested at an automotive manufacturing asseblly [21]. The outcomes demonstrated that IoT-based sensors and the proposed large information handling framework are adequately effective to screen the assembling procedure. The proposed framework is required to help the board by improving dynamics and help forestall unforeseen misfortunes brought about by flaws during the assembling procedure.

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16/01/23	FT - DR - 50200027244206 - INDIAN SAFETY SOLUTION	00000000000003003	16/01/23	4,106.00		70,893.65

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Generalization of Vedic Mathematics Method for Nth Degree Polynomial Factorization: Using Sutras Paravartya Yojayet, Vilokanam and Ganita Samuccaya: Samuccaya Gunita

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Abstract: In this paper, we have presented a new approach to factorization of a polynomial, with the help of Vedic mathematics and modern mathematics concepts. This method is based on the Vedic mathematics sutras Vilokanam, Gunita Samuccaya: Samuccaya Gunita, and Paravartya Yojayet given by Swami Bharti Krishna Maharaj. It is an easier and more useful method for students to easily factorize this type of polynomial with mental calculation.

Keywords: Modern Mathematics, Fundamental Theorem of Algebra, Vedic Mathematics, Vilokanam, Gunita Samuccaya: Samuccaya Gunita, Paravartya Yojayet, polynomial.

Introduction:

Vedic mathematics is an ancient Indian system of mathematical calculations or operation techniques that was developed in 1957. It consists of 16 sutras (formulae) and 13 sub-sutras (Sub Formulae) that can be utilized to solve problems in arithmetic, algebra, geometry, calculus, and conics. [1]. Various methods have been developed for the factorization of polynomials. In the Vedic method by Jagadguru Shankaracharya Shri Bharati Krishna Thirtha Swamiji, He introduced the method of factoring cubic polynomials [1]. In this study, we use the same concept for factorization of the nth type of polynomial equation with the help of modern mathematics.

The introduction of a method for factorizing nth-degree polynomials, which can be expressed as $x^n + a_1x^{n-1} + a_2x^{n-2} + \dots + a_k$, (where x is variable of polynomial, n is degree of polynomial and a_1, a_2, \dots, a_k are constant terms of polynomial)



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08/01/24	CHQ PAID-MICR CTS-MU-NEW SHREEJI INDUSTR	0000000000005182	08/01/24	17,400.00	476,385.55
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Engineering Applications of Artificial Intelligence

Volume 127, Part A, January 2024, 107132

An intelligent IoT intrusion detection system using Helnit-WGAN and SSO-BNMCNN based multivariate feature analysis

Jianbin Wu ^a , Sami Ahmed Haider ^b , Heejung Yu ^c , Muhammad Irshad ^d , Mukesh Soni ^e ,
Mohit Kumar Bhadla ^f , Yousaf Bin Zikria ^g 

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Highlights

- Highlights the necessity for cutting-edge intrusion detection systems by recognising the expanding attack surface, expanded communication infrastructure, and greater assault rates in IoT contexts.
- Analyse and comprehend the connections between data points in order to improve intrusion detection's precision and effectiveness.
- Demonstrated improved GAN methodology outperforms conventional ones, cutting down on false alarms and boosting the accuracy of intrusion detection.
- Apply methods like resilient scalar scaling based on maximum likelihood estimate and classification of missing data based on concordance connection coefficients.

Abstract

Devices connected to the Internet of Things (IoT) are growing in popularity across multiple industries. IoT links intelligent homes, buildings, businesses, and communities, and also links



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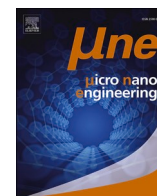
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Review paper



Recent progress on gold nanoparticle biosensors monitored water quality: Insights on diversified contaminants and functionalization paradigms

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Keywords:

Water quality monitoring
Au nanoparticles based biosensors
Utmost sensitivity and reliable predictions
Functionalization
Limits of detection
Size and shape dependent physicochemical attributes

ABSTRACT

Over the past few years, water quality monitoring has swiftly emerged as a thrust area for most of the developing nations. Despite its renewable essence, incessant industrialization and urbanization have depleted the natural water resources, culminating in adverse impact on potable water quality. As a consequence, reliable technologies with utmost sensitivity and accurate predictions *vis-à-vis* authentic qualitative standards are urgently needed. Herein, interest in using gold nanoparticles (Au NPs) biosensors to gauge the qualitative profile of water resources has been quite significant. Major fascinations for Au NPs biosensing driven water quality monitoring are steadfast preparation methodologies, well-understood mechanisms for size-shape modulation and inert sensitivity manifested remarkable functionalization abilities. The size-shape modulated functionalization advances for Au NPs are the dynamic outcomes of their quantum effects, anchored *via* single or multidimensional quantum confinements (QCs). Morphologies as vibrant as rod, spherical, cylindrical, shells and combinatorial regime have been the backbone aspects of Au NPs based biosensors. With such insights, the present article focuses on last decade noted advances aimed at Au NPs biosensors assessed water quality. The studies discussed herewith were retrieved from Pubmed using the keywords, “Gold Nanoparticle Biosensors for Water Quality Monitoring”. The knowledge shared herein could consolidate the fabrication of future Au nanomaterials based sensing technologies *vis-à-vis* functionalization mechanisms, cost considerations, precision aspects, integrated possibilities and long-term cautions.

1. Introduction

Deteriorating potable water quality has been an emerging global concern, manifested *via* unchecked human, industrial and agricultural exploitations. Pollutants from diversified sources (industrial and agricultural) contaminate the water bodies, rendering them unsafe for human consumption. Layman understanding of a contaminant *vis-à-vis* qualitative screening of any water resource implies any material prevailing at a more than optimum extent. Broadly, water contaminants can be chemical and biological, the former comprising insecticides, pesticides, aromatic compounds, heavy metals (HMs) *etc.*, the usual discards of industrial, agricultural and human activities. The mounting risk of all

these contaminants relates to their persisting tendency with a non-biodegradable essence. Notable of these entities in the biological domain include humans, animals and microbial (fungal, bacterial and algal) excreta [1–3]. Emerging concern for declining water quality is well-inferred from the World Health Organization (WHO) recognition of “Safely Managed Drinking Water Services” as a global aim. Statistics report staggering 76 million annual cases of waterborne illness from United States [4]. Similarly, in Bangladesh, one of every five food poisoning deaths attributes to poor water quality [5]. Thereby, accurate, precise and reproducible detection of pollutants is the major step towards reclaiming freshwater resources for minimizing environmental and health damage [6,7]. Declining water quality on the global front is

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Retracted: Analysis of Network Technologies and Cyber security Assessment for Enhancing Machine Learning, Grid Computing and Cyber-Physical Connectivity Internetwork Effectiveness

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Statement From : 01/06/2022 To : 30/06/2022

	6-1@OKAXIS-IBKL0001024-215742048848-PANC HAL DHARMISHTA				
06/06/22	EASEBUZZ PRIVA-A502060622PTQICC4MO4	0000206065429281	06/06/22	1,500.00	716,568.37
06/06/22	CASH DEP MITESHBHAI KALOL	0000000000000000	06/06/22	30,000.00	746,568.37
06/06/22	NEFT DR-UTIB0002892-HIRISE HOSPITALITY P VT LTD-TRIMANDIR AD-N157221986967686	00000000000001945	06/06/22	8,903.00	737,665.37
06/06/22	UPI-EVA MUKESH BHATKAR-EVABHATKAR30@OKIC ICI-BARB0CHANOD-215715765683-EVA BHATKAR HOSTEL	0000215715765683	06/06/22	15,000.00	752,665.37
06/06/22	UPI-NARESHKUMAR CHIMANLA-JANVIJIL4@OKAXI S-UTIB0004706-215749426360-UPI	0000215749426360	06/06/22	30,000.00	782,665.37
06/06/22	UPI-JOSHI TAKSH CHANDRES-JOSHITAKSH3-1@O KAXIS-HDFC0003893-215749949273-HOSTEL FE E LAST PA	0000215749949273	06/06/22	30,000.00	812,665.37
06/06/22	EASEBUZZ PRIVA-B311060622PT8ZZRE3MU	0000206066346197	06/06/22	500.00	813,165.37
06/06/22	UPI-SHAILESHBHAI B CHAUD-SHAILESHCHAUDHA RY2323@OKHDFCBANK-BARB0MARPAT-2157176538 90-NIKKI D BHABHAR	0000215717653890	06/06/22	35,000.00	848,165.37
06/06/22	UPI-DAXKUMAR VYAS-9875219790@PAYTM-GSCB0 BKD001-215756744839-NA	0000215756744839	06/06/22	20,000.00	868,165.37
07/06/22	CHQ PAID-MICR CTS-MU-CHAITANYA SINGH	00000000000001919	07/06/22	16,000.00	852,165.37
07/06/22	UPI-VISHALKUMAR PARESHBH-VISHALPANCHAL87 6-1@OKAXIS-IBKL0001024-215863735255-UPI	0000215863735255	07/06/22	500.00	852,665.37
07/06/22	EASEBUZZ PRIVA-A370070622PTZVIHSR78	0000206077823405	07/06/22	500.00	853,165.37
07/06/22	FT - DR - 00061500007160 - DHAAVAL CHANDR AKANT DAVE	00000000000001952	07/06/22	180,000.00	673,165.37
07/06/22	EASEBUZZ PRIVA-B365070622PT1AB2KJMJ	0000206078982294	07/06/22	2,500.00	675,665.37
07/06/22	UPI-HANSA AMRATBHAI CHAM-PARMARHANSA2223 @OKHDFCBANK-BKID0002216-215835289709-UPI	0000215835289709	07/06/22	10,000.00	685,665.37
07/06/22	UPI-HANSA AMRATBHAI CHAM-PARMARHANSA2223 @OKHDFCBANK-BKID0002216-215835317780-UPI	0000215835317780	07/06/22	14,000.00	699,665.37
07/06/22	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN:	0000000000263444	08/06/22	30,000.00	729,665.37

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*Closing balance includes funds earmarked for hold and uncleared funds

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> Conference paper


Applied Machine Tool Data Condition to Predictive Smart Maintenance by Using Artificial Intelligence

| Conference paper | First Online: 26 May 2022


| pp 584–596 | [Cite this conference paper](#)



[Emerging Technologies in Computer Engineering: Cognitive Computing and Intelligent IoT](#) (ICETCE 2022)

[Chaitanya Singh](#), [M. S. Srinivasa Rao](#), [Y. M. Mahaboobjohn](#), [Bonthu Kotaiah](#) & [T. Rajasanthosh Kumar](#) 

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Abstract



Account Branch : PALDI
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 City : AHMEDABAD
 State : GUJARAT
 Phone no. : 18002026161
 OD Limit : 100000 Currency : INR
 Email : ANJALPATEL48@GMAIL.COM
 Cust ID : 142383561
 Account No : 50200050958071 Imperia
 A/C Open Date : 12/08/2020
 Account Status : Regular
 RTGS/NEFT IFSC: HDFC0000299 MICR : 380240009
 Branch Code : 299 Product Code : 1294

M/S. SWARANIM STARTUP AND INNOVATION UNI
 C/O SWARANIM STARTUP AND INNOVATION
 35 WORLD BUSINESS HOUSE OPP PARIMAL
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 GUJARAT

JOINT HOLDERS :

Nomination : Not Registered

Statement From : 01/11/2022 To : 30/11/2022

07/11/22	CHQ PAID-MICR CTS-MU-JAYSHRIBEN PABANI	0000000000002639	07/11/22	9,850.00		648,451.69
07/11/22	CHQ PAID-MICR CTS-MU-JANKHANA BARIYA	0000000000002644	07/11/22	11,800.00		636,651.69
07/11/22	CHQ PAID-MICR CTS-MU-GAUTAM PATEL	0000000000002637	07/11/22	14,800.00		621,851.69
07/11/22	CHQ PAID-MICR CTS-MU-CHETAN SHUKLA	0000000000002634	07/11/22	27,940.00		593,911.69
07/11/22	CHQ PAID-MICR CTS-MU-ABHINAV UPADHYAY	0000000000002669	07/11/22	24,800.00		569,111.69
07/11/22	CHQ PAID-MICR CTS-MU-UASH RSING CHAVDA	0000000000002640	07/11/22	7,920.00		561,191.69
07/11/22	CHQ PAID-MICR CTS-MU-PARTH GAJJAR	0000000000002645	07/11/22	24,550.00		536,641.69
07/11/22	CHQ PAID-MICR CTS-MU-RAJESH R GADHVI	0000000000002671	07/11/22	39,500.00		497,141.69
07/11/22	CHQ PAID-MICR CTS-MU-BRIJESH VAGHELA	0000000000002638	07/11/22	14,800.00		482,341.69
07/11/22	CHQ PAID-MICR CTS-MU-KETUL PRAJAPATI	0000000000002641	07/11/22	11,800.00		470,541.69
07/11/22	CASH DEP BHAVIN KALOL	0000000000000000	07/11/22		80,000.00	550,541.69
07/11/22	UPI-GAURAV PANDEY-GAURAVPANDEYQRE@OKSBI -SBIN0006942-231104871891-UPI	0000231104871891	07/11/22		3,000.00	553,541.69
07/11/22	NEFT CR-UTIB0000130-FOJABHAI MEGHABHAI P ARMAR-SWARANIM STARTUP AND INNOVATION UN -AXSK223110016274	AXSK223110016274	07/11/22		10,000.00	563,541.69
07/11/22	NEFT CR-BARB0DUNVAD-ROHIT MADHAVBHAI MUL AJIBHAI-SWARNIM STARTUP ND INNOVATION UN IBV-BARBV22311353234	BARBV22311353234	07/11/22		10,000.00	573,541.69
07/11/22	UPI-KRISHNA PUNITKUMAR S-KRISHNAPSHUKLA2 41@OKSBI-SBIN0007475-231117050761-UPI	0000231117050761	07/11/22		700.00	574,241.69
08/11/22	CHQ PAID-MICR CTS-MU-TORRENT POWER LIMIT	0000000000002557	08/11/22	3,270.00		570,971.69
08/11/22	CHQ PAID-MICR CTS-MU-CHAITANYA SINGH	0000000000002344	08/11/22	5,000.00		565,971.69
08/11/22	CASH DEP BHAVIN KALOL	0000000000000000	08/11/22		10,500.00	576,471.69
08/11/22	FT - DR - 50100358542989 - LALITBHAI KHI MJIBHAI PRAJAPATI	0000000000002686	08/11/22	150,000.00		426,471.69
08/11/22	FT - DR - 50100527236052 - GAURAV PRAJAP ATI	0000000000002674	08/11/22	25,500.00		400,971.69
08/11/22	FT - DR - 50100357090644 - GURJAR JAYMIN GORDHANBHAI	0000000000002673	08/11/22	17,917.00		383,054.69
08/11/22	NEFT DR-SBIN0018625-MONIKA PATEL-TRIMAND IR AD-N312222197526179	0000000000002675	08/11/22	13,000.00		370,054.69

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Groundwater for Sustainable Development

Volume 11, October 2020, 100429

Review article

Productivity enhancement of solar still with thermoelectric modules from groundwater to produce potable water: A review

Hitesh Panchal ^a, Kishor Kumar Sadasivuni ^b  , **Chintan Prajapati ^c**, Mohammad Khalid ^d, F.A. Essa ^e, S. Shanmugan ^f, Naimish Pandya ^g, M. Suresh ^h, Mohammad Israr ⁱ, Swapnil Dharaskar ^j, Abderrahmane Khechekhouche ^k

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Highlights

- Solar Desalination system with thermoelectric modules of various researchers work has been reviewed.
- Solar still with thermoelectric modules found best solution to supply potable water and electricity for remote location.
- Future work of solar still with thermoelectric modules has also included in present review.

Abstract:

Groundwater is recognized as a principal source of water for the drinking, irrigation and many other purposes. Researchers have also used groundwater in the solar distillation to convert it to drinkable water by use of solar energy. Even the researchers used thermoelectric modules with Solar operated devices like flat plate collector, evacuated tubes collector, compound parabolic concentrator etc. Hence, the main aim of the present review paper is to examine different researchers work on



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 Cust ID : 142383561
 Account No : 50200050958071 Imperia
 A/C Open Date : 12/08/2020
 Account Status : Regular
 RTGS/NEFT IFSC: HDFC0000299 MICR : 380240009
 Branch Code : 299 Product Code : 1294

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JOINT HOLDERS :

Nomination : Not Registered

Statement From : 01/04/2020 To : 31/03/2021

01/02/21	IB FUNDS TRANSFER DR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB01113843281274	01/02/21	40,000.00		14,635.00
04/02/21	CHQ PAID-MICR CTS-MU-AMRIJAL CORPORATION	0000000000000034	04/02/21	587.00		14,048.00
10/02/21	CHQ PAID-MICR CTS-MU-CHINTAN PRAJAPATI	0000000000000036	10/02/21	5,700.00		8,348.00
12/02/21	FT - DR - 50100373093408 - SHAH NAWAZ AS HRAF	0000000000000120	12/02/21	7,000.00		1,348.00
12/02/21	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB12180133679819	12/02/21		50,000.00	51,348.00
12/02/21	FT - DR - 50100344944753 - MONALI D JOSH I	0000000000000207	12/02/21	6,800.00		44,548.00
16/02/21	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB16154600469227	16/02/21		150,000.00	194,548.00
16/02/21	SALARY SWARANIM STATUP AND INNOVATION UN DR - 02992990000043 - PALDI SALARY TRAN SITORY A C	0000000000000208	16/02/21	141,910.00		52,638.00
18/02/21	IB FUNDS TRANSFER DR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB18121351194577	18/02/21	15,000.00		37,638.00
18/02/21	RTGS CR-KKBK0000958-AADISHWAR COLLEGE OF KK TECHNOLOGY V-SWARNIM STARTUP AND INNOVA TION UNI-KKBKR52021021800863341	KR52021021800863341	18/02/21		900,000.00	937,638.00
18/02/21	IB FUNDS TRANSFER DR-50200050973965 -SW ARRNIM INSTITUTE OF TECHNOLOGY	IB18135449672869	18/02/21	900,000.00		37,638.00
20/02/21	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN: GANPAT BHAI KARSHANBHAI CHAUDHARY :STAT E BANK OF INDIA	0000000000134853	22/02/21		37,500.00	75,138.00
22/02/21	CHQ PAID-MICR CTS-MU-P L THAKKAR AND SON	0000000000000123	22/02/21	35,000.00		40,138.00
22/02/21	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN: BARADIYA SHIVJI MADEVA :BANK OF BARODA	0000000000000107	23/02/21		10,000.00	50,138.00
22/02/21	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN: JOSH PUR BODY REPAIRING :BANASKANTHA DIS T CEN CO-OP BANK LTD	0000000000100078	23/02/21		52,000.00	102,138.00
23/02/21	IB FUNDS TRANSFER CR-50200048649139 -GY	IB23130739851371	23/02/21		300,000.00	402,138.00

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RESEARCH ARTICLE | APRIL 25 2023

Assessment of Sustainable Development Goals through Industry 4.0 and reconfigurable manufacturing system practices 🛒

Rajesh Pansare; Gunjan Yadav ; Jose Arturo Garza-Reyes  ;
Madhukar Raosaheb Nagare

+ Author & Article Information

Journal of Manufacturing Technology Management (2023) 34 (3): 383–413.

<https://doi.org/10.1108/JMTM-05-2022-0206> Article history 

Purpose

The United Nation's Sustainable Development Goals (SDGs), introduced in 2015, connect several manufacturing strategies and promote sustainable practices in an organization.

Manufacturing companies are struggling to meet changing market demands while also addressing social and biological issues. The current study aims to develop a framework that can assist practitioners and managers contribute to the attainment of the SDGs through the adoption of reconfigurable manufacturing system (RMS) practices and Industry 4.0 technologies.

Design/methodology/approach

An extensive literature review was carried out to identify RMS-Industry 4.0 practices and their interconnection, as well as their contribution to achieving the SDGs. The stepwise weight assessment ratio analysis (SWARA) method was then used to compute the weights of the selected RMS-Industry 4.0 practices, whereas the weighted aggregated sum product assessment (WASPAS) method was used to prioritize performance metrics. The developed framework's robustness was tested using a sensitivity analysis across five different organizations.

Findings

The findings show that advanced technologies practices have the most importance, followed by customization and rapid adjustment of capacity and functionality practices. The sensitivity analysis revealed the robustness of the developed framework as well as its adaptability among the chosen organizations.





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GUJARAT INDIA

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PALDI
City : AHMEDABAD 380 007
State : GUJARAT
Phone no. : 18002026161
OD Limit : 100,000.00
Currency : INR
Email : ANJALPATEL48@GMAIL.COM
Cust ID : 142383561
Account No : 50200050958071 Imperia
A/C Open Date : 12/08/2020
Account Status : Regular
RTGS/NEFT IFSC: HDFC0000299 MICR : 380240009
Branch Code : 299 Product Code : 1294

Nomination : Not Registered

From : 01/05/2023

To : 31/05/2023

Statement of account

18/05/23	NEFT CR-YESB0000001-EASEBUZZ PVT LTD NOD AL A/C-SWARANIM STARTUP AND INNOVATION-Y ESB31380133590	0YESB31380133590	18/05/23		1,500.00	1,768,436.65
18/05/23	NEFT - ICIC0003463 - C73275180523180823 - - 346305000680 - MULLED SPACES	N138232465612984	18/05/23	100,000.00		1,668,436.65
18/05/23	FT - HDFC000000X - C77352180523185534 - - 59281108110811 - RAVI PRECAST	0000000374803114	18/05/23	134,000.00		1,534,436.65
19/05/23	CHQ PAID-MICR CTS-MU-NEERAJ	0000000000003558	19/05/23	47,800.00		1,486,636.65
19/05/23	CHQ PAID-MICR CTS-MU-PINESH PATEL	0000000000003074	19/05/23	5,000.00		1,481,636.65
19/05/23	CHQ PAID-MICR CTS-MU-SARADAR M VAZARA	0000000000003606	19/05/23	20,188.00		1,461,448.65
19/05/23	CHQ PAID-MICR CTS-MU-NILESH PATEL	0000000000003549	19/05/23	325.00		1,461,123.65
19/05/23	CHQ PAID-MICR CTS-MU-KILLOL DESAI	0000000000003531	19/05/23	10,000.00		1,451,123.65
19/05/23	CHQ PAID-MICR CTS-MU-K S S LABOUR CONTRA	0000000000003565	19/05/23	183,865.00		1,267,258.65
19/05/23	CHQ PAID-MICR CTS-MU-PREETI NAIR	0000000000003535	19/05/23	10,000.00		1,257,258.65
19/05/23	CHQ PAID-MICR CTS-MU-ASIR DANIEL	0000000000003525	19/05/23	10,000.00		1,247,258.65
19/05/23	CHQ PAID-MICR CTS-MU-RENU MAHENDRA	0000000000003536	19/05/23	10,000.00		1,237,258.65
19/05/23	UPI-DEVJIBHAI RABARI-8128548606@IBL-GSCB 0BKD001-313990363061-PAYMENT FROM PHONE	0000313990363061	19/05/23		3,500.00	1,240,758.65
19/05/23	CASH DEPOSIT BY - KHAT VIJAYBHAI - SANTR AMPUR BRANCH	0000000000000000	19/05/23		20,000.00	1,260,758.65
19/05/23	FT - DR - 50100606090050 - RAMKRISHNA MI SHRA	0000000000003590	19/05/23	23,312.00		1,237,446.65
19/05/23	NEFT DR-IBKL01282KB-ARTH INDANE -PALDI,A HMEDA-N139232466184233	0000000000003609	19/05/23	5,833.00		1,231,613.65
19/05/23	FT - DR - 50100404581118 - AMITA PETERS	0000000000003607	19/05/23	13,596.00		1,218,017.65
19/05/23	EASEBUZZ PRIVA-A160190523PTV6BZPY8S	0000305197264813	19/05/23		1,500.00	1,219,517.65
19/05/23	NEFT CR-YESB0000001-EASEBUZZ PVT LTD NOD AL A/C-SWARANIM STARTUP AND INNOVATION-Y ESB31391145438	0YESB31391145438	19/05/23		2,000.00	1,221,517.65
20/05/23	CHQ PAID-MICR CTS-MU-GUNJAN YADAV	0000000000003608	20/05/23	2,500.00		1,219,017.65
20/05/23	CHQ PAID-MICR CTS-MU-BHARAT CHOUDHARY	0000000000003533	20/05/23	10,000.00		1,209,017.65
20/05/23	CHQ PAID-MICR CTS-MU-JYOTI LANDGE	0000000000003537	20/05/23	10,000.00		1,199,017.65

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Computers in Industry

Volume 122, November 2020, 103280

A framework to achieve sustainability in manufacturing organisations of developing economies using industry 4.0 technologies' enablers

Gunjan Yadav^a✉, Anil Kumar^b✉, Sunil Luthra^c✉, Jose Arturo Garza-Reyes^d✉, Vikas Kumar^e✉, Luciano Batista^f✉

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Highlights

- Analysed Industry 4.0 technologies' enablers to achieve sustainability in developing economies.
- Developed a framework to achieve sustainability in manufacturing organisations.
- Conducted an empirical study across manufacturing organisations in India.
- Applied Robust Best Worst Method to compute the intensity of enablers.
- Implemented developed framework in an automotive manufacturing organization.

Abstract



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07/11/20	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB07144720357200	07/11/20		40,000.00	71,580.00
07/11/20	FT - DR - 00481050179233 - JADEJA KISHOR SINH JITUBHA	0000000000000021	07/11/20	50,000.00		21,580.00
09/11/20	GUNJAN YADAV - CHQ PAID - KALOL	0000000000000016	09/11/20	5,500.00		16,080.00
09/11/20	SANTOSH BARIYA - CHQ PAID - KALOL	0000000000000015	09/11/20	5,250.00		10,830.00
12/11/20	CHQ PAID-MICR CTS-MU-GUNJAN YADAV	0000000000000010	12/11/20	10,000.00		830.00
13/11/20	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB13162755869417	13/11/20		80,000.00	80,830.00
13/11/20	NEFT DR-ICIC0000294-DAMJIBHAI KANJIBHAI AKBARI-PALDI,AHMEDA-N318201310295633	00000000000000105	13/11/20	20,000.00		60,830.00
24/11/20	FT - DR - 50100373093408 - SHAH NAWAZ AS HRAF	00000000000000102	24/11/20	34,800.00		26,030.00
30/12/20	IB FUNDS TRANSFER CR-50200048649139 -GY APRASAD JAIN CHERITABLE TRUST	IB30164305267397	30/12/20		300,000.00	326,030.00
30/12/20	FT - DR - 50100271854421 - ARPIT KUMAR S OLANKI	0000000000000024	30/12/20	9,905.00		316,125.00
30/12/20	NEFT DR-ICIC0000294-DAMJIBHAI KANJIBHAI AKBARI-PALDI,AHMEDA-N365201355724359	0000000000000022	30/12/20	20,000.00		296,125.00
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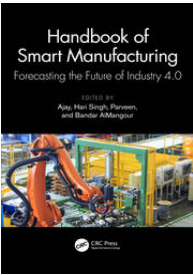
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Chapter



Integration of Circular Supply Chain and Industry 4.0 to Enhance Smart Manufacturing Adoption

By Monika Vyas (/search?contributorName=Monika Vyas&contributorRole=author&redirectFromPDP=true&context=ubx), Gunjan Yadav (/search?contributorName=Gunjan Yadav&contributorRole=author&redirectFromPDP=true&context=ubx)

Book [Handbook of Smart Manufacturing \(https://www.taylorfrancis.com/books/mono/10.1201/9781003333760/handbook-smart-manufacturing?refId=1f9aecc4-b7c1-4e02-815f-ee754932efd6&context=ubx\)](https://www.taylorfrancis.com/books/mono/10.1201/9781003333760/handbook-smart-manufacturing?refId=1f9aecc4-b7c1-4e02-815f-ee754932efd6&context=ubx)

Edition	1st Edition
First Published	2023
Imprint	CRC Press
Pages	14
eBook ISBN	9781003333760

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ABSTRACT

< [Previous Chapter \(chapters/edit/10.1201/9781003333760-3/recent-advances-cybersecurity-smart-manufacturing-systems-industry-dinesh-kumar-atal-vishal-tiwari-dharmender-kumar?context=ubx\)](#)

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Statement of account

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14/08/23	CHQ PAID-MICR CTS-MU-SKY RENEWABLE	0000000000004307	14/08/23	70,800.00		1,015,584.77
14/08/23	CHQ PAID-MICR CTS-MU-B SOLAR CONSULTANT	0000000000004306	14/08/23	72,767.00		942,817.77
14/08/23	UPI-DARSHAN BHOGILAL SUT-SUTHARDARSHAN02 8@YBL-SBIN0013414-322683626598-DISHA MIS TRY PHD	0000322683626598	14/08/23		35,000.00	977,817.77
14/08/23	SURESH - CHQ PAID - CHANDLODIYA	0000000000004322	14/08/23	1,424.00		976,393.77
14/08/23	NEFT DR-UTIB0000338-GUNJAN YADAV- PALDI, AHMEDA-N226232595298596	0000000000004344	14/08/23	2,500.00		973,893.77
14/08/23	IMPS-322613016592-THE BOOK SHOP-IDFB-XXX XXXXX6853-IMPSTXN	0000322613016592	14/08/23		51,000.00	1,024,893.77
14/08/23	NEFT DR-KKBK0000810-RAJESHKUMAR RATANBHA I GADHVI -PALDI,AHMEDA-N226232595433425	0000000000004359	14/08/23	51,000.00		973,893.77
14/08/23	IMPS-322614954641-DIPALIRANA-UBIN-XXXXXX XXXXX1713-PHD SEM 4	0000322614954641	14/08/23		40,000.00	1,013,893.77
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14/08/23	NEFT CR-YESB0000001-EASEBUZZ PVT LTD NOD AL A/C-SWARANIM STARTUP AND INNOVATION-Y ESB32261122923	0YESB32261122923	14/08/23		2,000.00	1,010,893.77
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Research Article

Development of a structural framework to improve reconfigurable manufacturing system adoption in the manufacturing industry

Rajesh Pansare, [Gunjan Yadav](#) & Madhukar R Nagare

Pages 349-380 | Received 01 May 2021, Accepted 13 Jun 2022, Published online: 30 Jul 2022

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ABSTRACT

The Reconfigurable Manufacturing System (RMS) has drawn the interest of researchers and practitioners due to its ability to meet dynamic customer needs while also providing flexibility and productivity in manufacturing. To increase RMS adoption, it is necessary to identify Reconfigurable-Manufacturing-System-Enablers (RMSEs) and develop a structural framework to guide practitioners to focus at different stages of implementation. To identify RMSEs, an extensive literature review is conducted, and the structural framework is developed using hybrid Robust-Best-Worst-Method (RBWM)-Interpretive Structural Modelling-(ISM) method with the



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21/04/22	CHQ PAID-TRANSFER IN-GUNJAN YADAV	0000000000001465	21/04/22	2,500.00	606,855.53
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21/04/22	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN: CHINTANKUMAR KIREETBHAI PATEL :BANK OF BARODA	0000000000000013	22/04/22	40,000.00	620,990.53
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Article

An agile new product development-based sustainable supply chain framework to improve environmental quality performance: emerging economies perspective

March 2023 · *Management of Environmental Quality An International Journal* 34(02)

DOI:10.1108/MEQ-04-2022-0119

Authors:



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Abstract

Purpose Sustainable supply chain management (SSCM) is a new subfield of supply chain management. The purpose of this research is to develop a framework for assessing the impact of agile new product development (ANPD) practices on the environmental SSCM performance. Design/methodology/approach The ANPD practices and SSCM environmental performance metrics (SEPMs) are identified through the literature review. The shortlisted ANPD practices are categorized into five major criteria each with an own set of sub-criteria. A four-level conceptual framework is developed. The weights of these ANPD practices are computed using the Pythagorean fuzzy Analytical Hierarchy Process (PFAHP), and the SEPMs are ranked using the Pythagorean fuzzy Combined Compromise Solution (PFCoCoSo). Findings The results show that the major criterion "Innovation Aspects" is the most important with a weightage of 0.2368, followed by "Policy Aspects" having 0.2228, "Technology Aspects" with 0.1959, "Organisation Aspects" having 0.1786 and "Executive Aspects" with 0.1658 weightage. The SEPMs "Frequency of NPD" is ranked first with an assessment value (Ki) of 2.5569, followed by "Lead time reduction" and "Number of design iterations" with Ki of 2.4482 and 2.3897, respectively. The research findings show that the ANPD practices like customer need assessment, availability of multidisciplinary team and Industry 4.0 technology usage contribute more to achieving environmental SSCM. Practical implications Managers can enhance environmental SSCM performance by adopting the ANPD practices and prioritizing SEPMs. Corporate effectiveness will be increased by the practices that promote SSCM and the use of technological innovations. Originality/value This study identified a unique set of 22 performance metrics that quantitatively measure NPD performance as well as environmental SSCM performance by adopting the 31 ANPD practices that were shortlisted. The proposed framework is a novel synthesis of literature from various disciplines such as new product development (NPD), environmental management, SSCM and performance evaluation.

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09/02/23	UPI-MOINUDDIN IBRAHIM SU-8849937843@PAYT M-UBIN0531049-304027523913-NA	0000304027523913	09/02/23		500.00	565,877.65
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09/02/23	NEFT DR-KKBK0000810-RAJESHKUMAR RATANBHA I GADHVI-PALDI,AHMEDA-N040232325440322	0000000000003140	09/02/23	39,500.00		446,472.65
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09/02/23	NEFT DR-ICIC0000104-GUNJAN YADAV-PALDI, AHMEDA-N040232325483136	0000000000003136	09/02/23	5,000.00		423,862.65
09/02/23	NEFT DR-IBKL0000082-OM PAPERS-PALDI,AHME	0000000000003127	09/02/23	7,522.00		416,340.65

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PreprintPDF Available


A Hybrid Framework to Prioritize the Performance Metrics of Reconfigurable Manufacturing System: An Integrated Fuzzy AHP–TOPSIS approach

April 2021


DOI:[10.21203/rs.3.rs-465137/v1](https://doi.org/10.21203/rs.3.rs-465137/v1)

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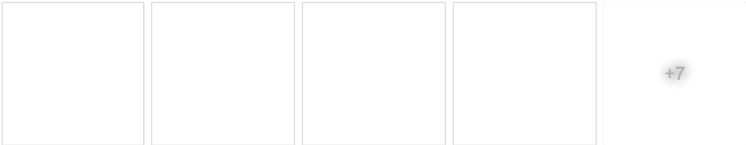
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References (61)Figures (12)

Abstract and Figures

The Reconfigurable Manufacturing System (RMS) meets the challenges of dynamic customer demands, technological advancements, and reducing lead time, among other things. It is necessary to have a framework that can assist in increasing RMS adoption as well as evaluating its performance. The present study seeks to develop a hybrid framework for prioritizing performance metrics of RMS that helps the designers of the manufacturing system in decision making. A total of 31 indicators for RMS are identified through a literature survey, the weight of each indicator is computed by Fuzzy-AHP (Analytic Hierarchy Process) method and the Fuzzy-TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) method is used to prioritize 22 performance metrics of RMS. The findings of the presented study reveal that among all the main indicators; smart factory indicators have the highest weightage followed by strategy and policy indicators. The prioritization of performance metrics shows that lead time, reconfiguration time, and product flexibility are the top three most important performance metrics for RMS. The feasibility and appropriateness of the framework is tested through a case application of the manufacturing organization. The framework developed has a high capacity to assist designers during the adoption of the RMS and will facilitate the identification of the relevant parameters. Authors believe that researchers and professionals will find this study as a ready reference for stepwise adoption of RMS. The study presented here is likely the first to present a hybrid framework in which a set of indicators and performance metrics are presented together.



A proposed three-
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Comparison of
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List of Indicators
for RMS

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22/09/21	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN: RAMESHKUMAR RAMJIBHAI DESAI :STATE BANK OF INDIA	0000000000753335	23/09/21	20,000.00	314,991.40
23/09/21	502000509580712001001569	0000109237940440	23/09/21	9,990.00	324,981.40
23/09/21	NEFT CR-INDB0000006-JAI MATAJI ROADLINES -SWARANIM STARTUP AND INNOVATIO-INDBN230 92139788	INDBN23092139788	23/09/21	150,000.00	474,981.40
23/09/21	IMPS-126618544734-PRAKASHKUMAR BALARAM-H DFC-XXXXXXX2390-MOBLT2309180848326	0000126618544734	23/09/21	10,000.00	484,981.40
23/09/21	UPI-CHAUHAN HITESHKUMAR -7359627280220@P AYTM-BKID0002305-126645950750-NA	0000126645950750	23/09/21	6,000.00	490,981.40
23/09/21	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN: KANTIBHAI MOTIBHAI DAMOR :BANK OF BAROD A	0000000000000052	24/09/21	10,000.00	500,981.40
23/09/21	CHQ DEP - - MICR CLG - NAVRANGPURA EXTN: CHINTANKUMAR KIREETBHAI PATEL :BANK OF BARODA	0000000000000010	24/09/21	30,000.00	530,981.40
24/09/21	CHQ PAID-MICR CTS-MU-NAY A PATEL	0000000000000512	24/09/21	5,000.00	525,981.40
24/09/21	CHQ PAID-MICR CTS-MU-GUNJAN YADAV	0000000000000946	24/09/21	7,500.00	518,481.40
24/09/21	CHQ PAID-MICR CTS-MU-MEGHA ENTERPRISE	0000000000000571	24/09/21	2,500.00	515,981.40
24/09/21	CHQ PAID-MICR CTS-MU-OM PAPIRS	0000000000000570	24/09/21	1,900.00	514,081.40
24/09/21	CHQ PAID-MICR CTS-MU-VIMAL JEWELL COS	0000000000000568	24/09/21	4,450.00	509,631.40
24/09/21	CHQ PAID PARTH THAKKAR - CHQ PAID - SHAH IBAUG, A	0000000000000572	24/09/21	20,295.00	489,336.40
24/09/21	UPI-PRAVINCHANDRA VIRABH-9978592775@YBL- SBIN0002637-126750593365-PAYMENT FROM PH	0000126750593365	24/09/21	10,000.00	499,336.40

HDFC BANK LIMITED

*Closing balance includes funds earmarked for hold and uncleared funds

Contents of this statement will be considered correct if no error is reported within 30 days of receipt of statement. The address on this statement is that on record with the Bank as at the day of requesting this statement.

State account branch GSTN:24AAACH2702H1Z6

HDFC Bank GSTIN number details are available at <https://www.hdfcbank.com/personal/making-payments/online-tax-payment/goods-and-service-tax>.
 Registered Office Address: HDFC Bank House, Senapati Bapat Marg, Lower Parel, Mumbai 400013