DECEMBER 2022 | ISSUE 66

CHRIST
(DEEMED TO BE UNIVERSITY)
BANGALORE · INDIA

SIGMA NEWSLETTER

SCHOOL OF BUSINESS AND MANAGEMENT

LEAN OPERATIONS AND SYSTEMS

Table of contents

December 2022, Issue 66

ARTICLES

POETRY CORNER

PHOTOGRAPHY CORNER

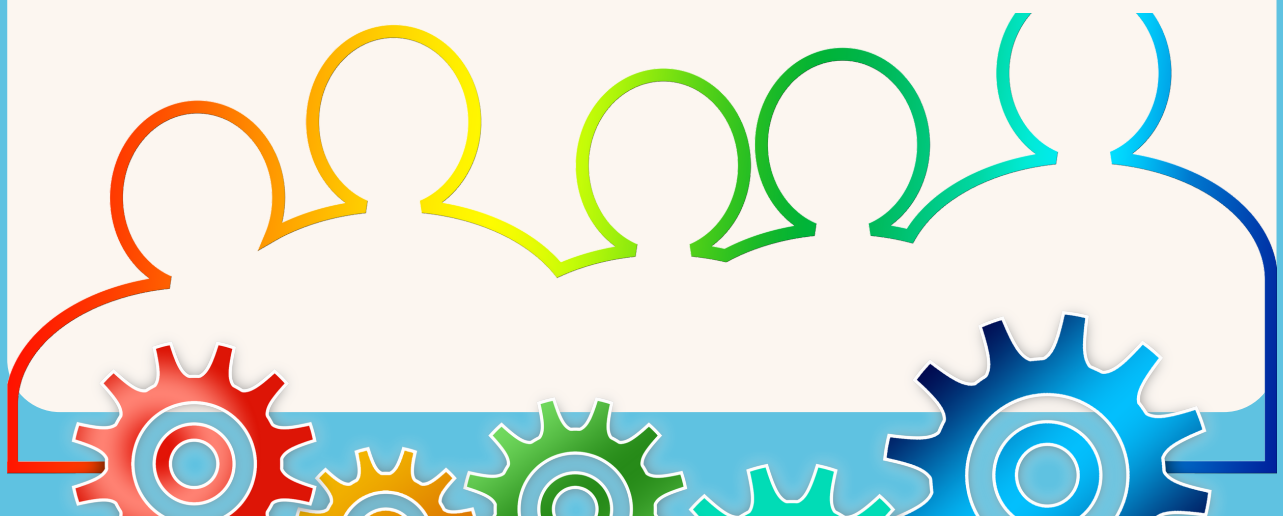
EDITOR'S NOTE

Dear Readers,

Team OASYS proudly presents 66th Edition of the SIGMA Newsletter. Emerging Technologies have revolutionized with time how the supply chain works. This edition includes articles on topics like the Application of Supply Chain Analytics in Data Analysis and Business Intelligence , Blockchain in Supply Chain, Trends in Supply Chain Analytics, Fusion Analytics at Oracle, Supply Chain Analytics in E-Commerce, followed by Creative Corner which puts forth their interests beyond academia.

We, Team Oasys, express our sincere gratitude to our Dean, Dr. Jain Mathew and the entire leadership team, Head of Specialization, Dr. Ramakrishnan N, Faculty Coordinator Dr. Saibal Kumar Saha, faculty members of the specialization and all those who have contributed in developing this edition of the newsletter. We hope you have as much thrill and gain a good amount of knowledge as we had in bringing out this newsletter to you.
Stay safe, Stay Healthy.

Regards,
Team OASYS
Lean Operations and Systems Specialisation
School of Business and Management



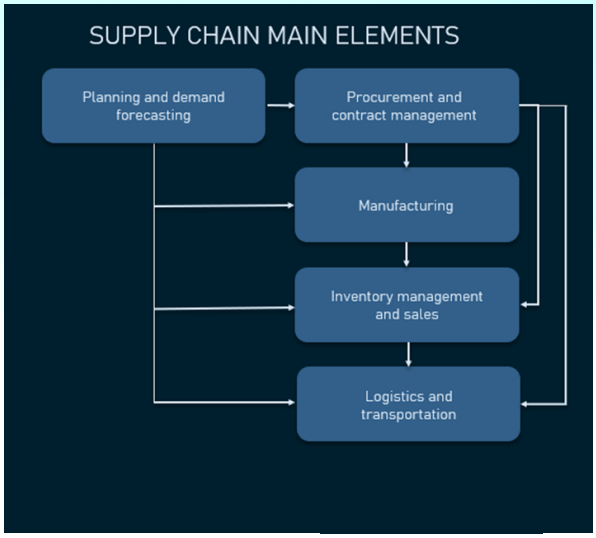
SUPPLY CHAIN ANALYTICS IN DATA ANALYSIS AND BUSINESS INTELLIGENCE.

M ASWIN – 2127518

Analytics can be used to make data-driven decisions based on a summary of pertinent, reliable data, which is frequently presented as graphs, charts, and other visual aids. Supply systems frequently produce enormous amounts of data. By identifying trends and generating insights, supply chain analytics assists in making sense of all this data.

Supply Chain Management Process:

- The majority of planning is concerned with demand forecasting and resource planning.
- Procurement is a collection of procedures that includes selecting vendors, negotiating conditions of collaboration, and purchasing materials for the organization.
- Manufacturing is concerned with capacity and production management.
- Inventory management is concerned with maintaining the best possible stock balance, sales, and warehousing operations.
- Logistics management includes order fulfillment as well as all delivery activities.



Analytics in Planning and Demand Forecasting:
To get a competitive edge, 57 percent of firms invest in BI to enhance sales planning and forecasting, according to a BI-Survey report.

Everything begins with a strategy. Moreover, planning depends on a grasp of present performance, historical patterns, known hazards, and potential future scenarios. Predictive analytics and machine learning (ML) approaches can aid in planning. Predicting client demand is critical for a supply chain organization since it impacts all other elements and is the foundation for procurement, manufacturing capabilities, planning, and sales.

Implementation and Integration of Analytics into the Supply Chain Management Process:

1. Identify the business problem: The first step is identifying the concerns and goals. Even while it seems straightforward, it is not always obvious when looking beyond "earn more money" and "reduce expenses." Some moderate pain points to consider include: Lowering inventory to save cash, locating more dependable suppliers, eliminating equipment malfunction, and improving product quality.

2. Establish KPIs: The next step is to define the criteria that will allow the business to track its progress and quantify its performance. However, KPIs must demonstrate how the organization meets its specific business objectives.

3. Assemble the data team: To manage the company's data, hiring a business analyst, a data engineer, or a team of data scientists would be considered. In order to improve the products, services, and procedures, an analyst would assess the company's operations, work with data sets from various sources, and make data-driven recommendations.

4. Start with existing analytics capabilities: The business might begin by utilizing its existing ERP or other company management system's reporting and analytics features. Typically, such solutions have some analytics capabilities. Still, it is usually restricted because various systems in the organization need to be linked. Hence, it cannot aggregate data from many sources to provide unique reports.

5. Develop a business-specific analytics platform: Consider the functionality and outcome. The business management system's standard reporting features will suffice if the business merely needs to see and monitor the supply chain performance using the major KPIs. Designing a comprehensive data architecture is advantageous to support the expansion of the company.

Conclusion:

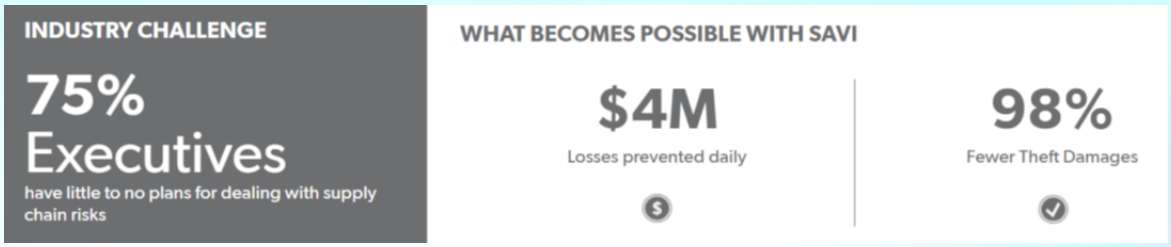
One can establish a successful firm with such a comprehensive approach to data. Software for analytics and business intelligence can provide information to improve supply chain effectiveness while guaranteeing customer satisfaction, reducing costs, and achieving organisational goals.

SUPPLY CHAIN ANALYTICS AT SAVI TECHNOLOGIES

SOURAV SUSHIL- 2128126

Supply chain analytics allows businesses to collect, analyse, and act on data generated by their supply chain activities. They can use it to make both short-term and long-term strategic modifications that will provide the company a competitive advantage. Managing supply chains manually and using spreadsheets is almost impossible and, at the very least, extremely inefficient because they are present all over the world and involve hundreds of different firms. And now we have supply chain analytics, which includes inventory management, sales and operations planning, and demand forecasting (which is the process of predicting what consumers will purchase based on historical data and other factors).

Using billions of data points, Savi's supply chain management analytics produces more precise statistics and forecasts. Here, Big data is translated into usable predictive and prescriptive analytic insights using machine learning and proprietary algorithms - combining unique and low-cost IoT sensors with machine learning algorithms to create powerful insight analytics. Customers may now benefit from the future supply chain thanks to actionable data.



To deliver real-time visibility, Savi Visibility collects live data from sensor readings, GPS, telematics, ocean vessel location, and private data sources.This streaming data is combined with non-real-time data, including EDI messages, to create real-time visibility.

By lowering the risks, Supply chain analytics offers the company various advantages. The tools enable the company to identify possible theft, delay, and tampering issues. Assets in transit can see their location, security, and status. Any changes to the plan or deviations from it should be made public. The organization will be able to make better planning decisions, and, as a result, the business will be more predictable if it is aware of the key risk indicators. Analytics based on supply chain data provide operational intelligence, which is helpful for risk mitigation and prevention.

BLOCKCHAIN IN SUPPLY CHAIN

SUHAS S-2127830

Blockchain:

Blockchain is a web-based technology praised for its capacity to authenticate, record transparently, and transmit transactions in immutable, encoded ledgers. The system was created to make bitcoin transactions easier. Bitcoin is a digital currency that does not require a central bank to operate. The term "blockchain" refers to a series of "blocks" containing verifiable and immutable transactions linked together to form a chain.

Supply chain management:

Supply chain management comprises the coordination of several tasks and their execution. There are material, information, and financial capital flows incorporated. Supply chain management integrates the flow of commodities, services, and information and the storage and transportation of raw materials, building products, and fully finished things from one location to another.

Blockchain and Supply Chain Analytics:

The appeal of supply chain analytics is its ability to find cross-transactional relationships and use data to make better decisions. Demand forecasting patterns, for example, might be evaluated to see which products are more likely to sell in the future and specific regions. In the meantime, blockchain technology allows for an endless stream of data tracking. Because data cannot be "edited after it has been entered," blockchain takes analytics to a whole new level.

As a result, there are multiple benefits to merging blockchain and analytics to optimize supply chain procedures:

• Automation is based on repeating actions, and because blockchain keeps data in an incorruptible resource, automation is easier to implement.

• Error-free data has the potential to reduce unexpected costs by keeping all stakeholders informed and encouraging collaboration across the supply chain.

- Measuring activity performance and keeping track of past, present, and project results will improve labor-management efficiency, promote worker productivity, and allow one to move more goods with fewer resources.

- Counterfeit product reduction is a critical challenge in today's digital supply chain. The ability of blockchain to track a product's entire history can help avoid counterfeit worries and ensure that all raw materials are supplied correctly. According to Innovation Enterprise, analytics can also detect attempted fraud or immoral behavior, allowing the blockchain to be authenticated. Why Simplified claims settlements result from improved customer service and recognizing if a shipper or carrier is responsible for a shipment's liability.

- Businesses can store, retrieve, and monitor shipping activities and reduce paperwork associated with such tasks, resulting in cheaper compliance costs. As a result, payment processing becomes faster, and productivity increases.

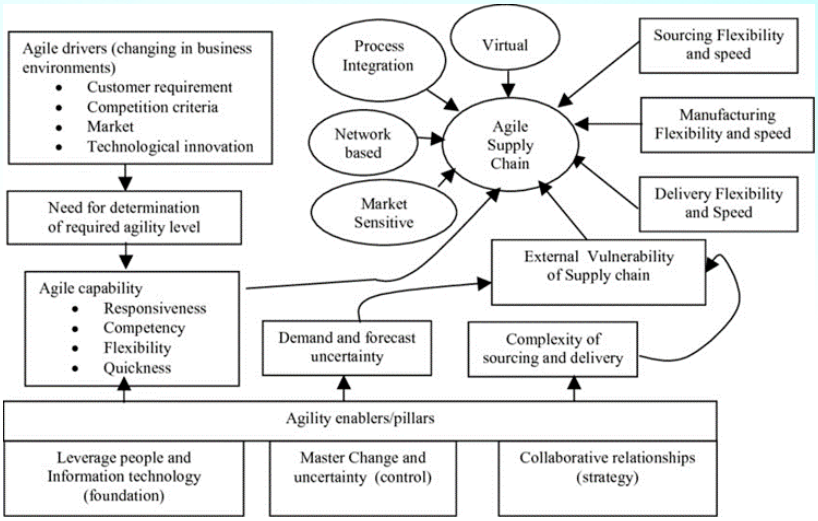
SUPPLY CHAIN ANALYTICS

VAIKAVI JANANI R -2128056

The most crucial advantage of Supply Chain Analytics is, increasing the forecasting to reduce the lead time. The various aspects include Data visualization, Stream processing, Social Media Integration, Natural Language Processing, Location Intelligence, and Graph Databases. This can further be broken down into Workflow, Decision Support, Unstructured Text Mining, and Structured Data Management.

Trends in Supply Chain Analytics in 2022:
Electronic Data Interchange (EDI) as a service: EDI has played a vital part in the smooth functioning of Supply Chain Operations. However, despite being employed by up to 85 percent of businesses, EDI's efficiency has been hampered by difficult onboarding procedures, a lack of technical know-how, and inconsistent standards. Given these challenges and a setting that progressively calls for their removal, the future of EDI must be centered on cutting-edge hybrid solutions. This innovative approach has been dubbed EDI-as-a-Service by Data Interchange.

Agile supply chains



Over the past few months, supply chain competitive advantage has hinged on all organizations' capacity to adapt rapidly, embrace new technologies, and identify new solutions. This much-needed agility can be aided by analytics that expose issues as they develop. The capacity to communicate updates and concerns quickly with existing supply partners enables the speed of change required to avoid supply delays, regardless of the inevitable setbacks.

Digitization
With globalization, handling the supply chain manually becomes tedious. Therefore, digitization processes of going paperless, moving to IoT, and converting human-led tasks help increase responsiveness, transparency, and efficiency.

Hyper automation:
As technology, data structures, analytics models, and the ability to combine data from disparate applications grow, so will supply chain analytics. Long-term, the use of advanced analytics will result in more autonomous supply chains that can manage and adapt to changes, much like self-driving cars do today.

The Cloud:
Over the next few years, cloud-specific spending is expected to expand six times faster than conventional IT spending. Even before 2020, 57 percent of supply chain experts were using fully established cloud solutions. The lack of visibility and integrated systems gave rise to the need for Cloud, which helped with accessibility, flexibility, and scalability. These advantages and more may be had with EDI-as-a-Service, which provides complete message visibility, alarms, audits, and reports through easy-to-use, configurable cloud-based dashboards.

As analytics models, data structures, technology, and the ability to combine data from various application silos advance, supply chain analytics will as well. Long term, the use of advanced analytics will result in more autonomous supply chains that can handle and adapt to changes, similar to how self-driving cars do today.

Fusion Analytics by Oracle

RAMAKRISHNAN A – 2128223

Fusion Analytics is a suite of Oracle Cloud Applications prebuilt, cloud-native analytics applications that provide ready-to-use insights to help line-of-business users make better decisions. Without coding, HR, finance, procurement, and operations teams can enrich their analytics with embedded machine learning (ML) and additional data from sources other than Oracle Cloud Applications. Because of Oracle's unrivalled breadth and depth of integrated analytics and application capabilities, enterprises can consolidate data and provide a single, unified view of performance across departments.

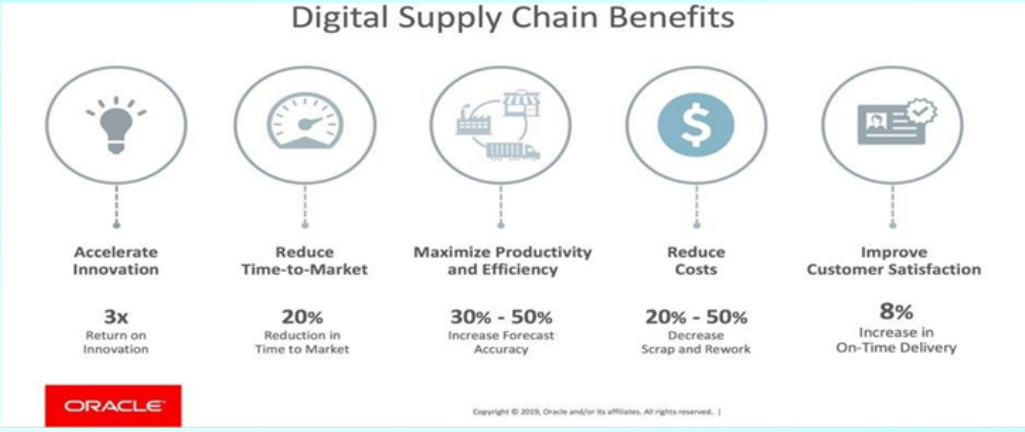
Oracle Fusion Analytics for ERP:
Supply chain professionals can use Oracle Fusion Supply Chain Management (SCM) Analytics, a prebuilt cloud-native solution for Oracle Cloud SCM, to boost productivity, cut costs, and ensure customer satisfaction.
Organizations can integrate supply chain analytics across departments thanks to Oracle's unmatched depth and breadth of combined analytics and application capabilities. SCM teams can improve their analytics without writing any code by utilizing embedded machine learning and additional data from sources other than Oracle Cloud SCM.

Business Analytics:
Traditional data analytics is the practice of studying large amounts of data to derive insights and make predictions. Business data analytics (also known as business analytics) takes that concept and applies it to business information, frequently using pre-built business content and tools to speed up the analysis process. Business analytics refers to the following: Incorporating and analyzing previous business data Identifying trends, patterns, and core causes by analyzing the data and using such insights to make data-driven business decisions.
To put it another way, data analytics is a broad term for the current analytics process. As the overall data has expanded, business analytics suggests a narrower emphasis and has functionally become more prevalent and vital for enterprises worldwide.

Benefits of business analytics:

Each party involved in the end-to-end process is in sync when data from many departments are combined into a single source. As a result of closing information and communication gaps, it is possible to:

Data-driven judgments: With business analytics, even the most difficult decisions become more intelligent—smart in the sense that they are supported by data. Whether it's HR budgets, marketing initiatives, manufacturing and supply chain demands, or sales outreach programs, quantifying core causes and clearly defining trends gives a wiser method to look at the future of an organization.



Easy visualization: Business analytics software can transform large volumes of data into simple but effective representations. This serves two purposes. For starters, it makes information much more accessible to people.

Modeling the what-if scenario: Predictive analytics builds models for users to search for trends and patterns that will influence future outcomes. Previously, only skilled data scientists could create these models, but now that business analytics software is enabled by machine learning, these models can be created within the platform. This allows business users to quickly adjust the model by running what-if scenarios with slightly modified variables without having to write complex algorithms.

Go augmented: All of the aforementioned suggestions consider how user-driven insights may be accelerated by business data analytics. When business analytics software is supported by machine learning and artificial intelligence, the power of augmented analytics is unlocked. In augmented analytics, the capacity to self-learn, adapt, and process massive amounts of data is used.

SUPPLY CHAIN ANALYTICS IN E-COMMERCE

Maaruthi.T - 2127667

E-commerce management involves more than just online product sales. It has numerous essential parts, including supply chain management, logistics, and product configuration. The ability of an efficient supply chain to meet customer expectations will improve e-commerce operations.

In e-commerce, numerous tasks are carried out in the background in parallel. Purchasing raw materials, managing demand and supply, keeping track of inventory, manufacturing, distributing the right product to customers, and order management are some of the key components of the supply chain in e-commerce.

The main benefits of a supply chain in e-commerce include increased customer relationships, cost savings, shortened delivery times, and scaling omnichannel strategies.

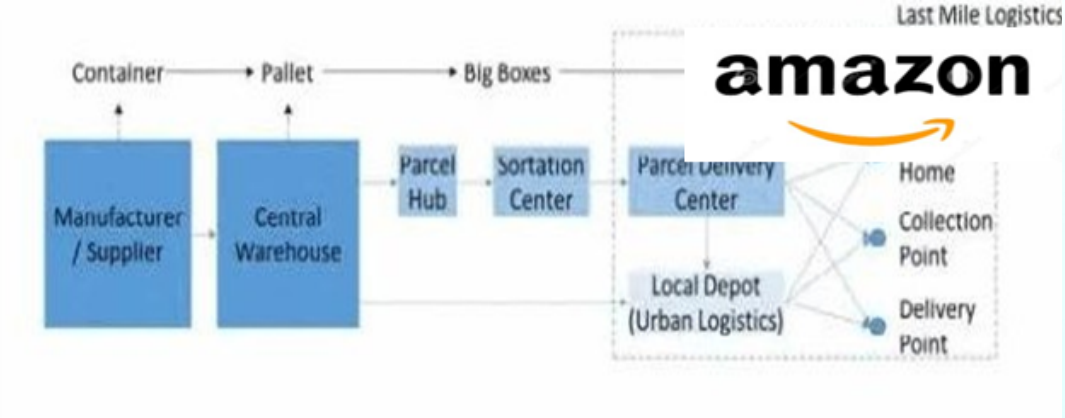
Based on the analysis, a few takeaways from the e-commerce supply chain are

1. Usage of flexible warehouses and suppliers (No need to rely on a single supplier, can quickly source products from different suppliers like Nykaa online platform).

2. Improves sales forecasting (As data's transparent in real-time will help you to control the supply chain and also helps you to react timely for changing demands).

3. Leveraging and embracing supply chain software (usage of technologies like big data, data analytics, and warehouse/inventory/logistics management system will help in increasing the efficiency of the supply chain. Also, single-platform ERP systems like SAP and Oracle can be used).

4. Decreasing processing time by managing labor effectively (Usage of barcode technology in warehouse system and automation in the process of the supply chain will be more advantageous).



Supply chain management in e-commerce-

Each of these pieces has been adjusted by Amazon to ensure that everything runs smoothly and efficiently. With third-party sellers accounting for over 55 percent of all Amazon sales, Amazon provides sellers with two fulfillment options: FBA and FBM.

AMAZON FBA AND FBM-

FBA (Fulfillment by Amazon)- This option entails Amazon handling all logistics and customer service. Third-party sellers will have to transport large quantities of products to Amazon's fulfillment centers, where they will be picked, packed, and shipped.
FBM (Fulfillment by Merchant)- In this option, third-party merchants are in charge of listing their products on Amazon and handling all aspects of the process themselves, including storage and fulfillment.

WAREHOUSE FOR AMAZON-

Amazon spending decades honing its logistics network to ship things around the world quickly and cheaply. Amazon concentrated its efforts on its massive regional e-commerce and Whole Foods distribution centers. However, we are learning about the various types of warehouses they operate to improve service.

Sortation centers are places where packages are sorted for a specific area; pantry and fresh warehouses are places where dry goods, perishables, and frozen goods are stored; Delivery stations are last-mile facilities where packages are sorted before being sent directly to the customer. Prime Now is a network of facilities that stock a small selection of in-demand products that can be delivered within one to two hours of an order being placed.

AIR ON AMAZON-

Amazon has aggressively invested in its aviation capabilities for the past few years. Previously known as Amazon Prime Air, Amazon Air is a freight airline that only transports Amazon items. While waiting to build its air hub at Cincinnati/Northern Kentucky International Airport, the firm has been acquiring jets to expand its fleet. Amazon's fleet consists of 22 Boeing 737-800s and 55 Boeing 767-300ERs as of this writing, with additional nine aircraft on order. In addition, Amazon paid $131 million for 13.5 million shares of Air Transport Services Group.

With Amazon's rising size, it's clear that technological innovation is a priority for the corporation. Drones are among the current innovations in the pipeline.

DREAM - A BURDEN?

PRAVEEN R -2127921

Your dreams might not work today.
People around you might criticize you for your work.
The friends and family whom you expect to support you might stand against you.

You might be pushed to follow the footsteps of others and you even might do it.
In the progress, you might also forget your dream.

Someone will come up in the future and successfully implement your dream.
Then only you will get to realize you dreamt about it but they worked consistently for it.

Do all dreams come true?
No, only the ones which deserve will become true.

If you dream tonight and start working for it in tomorrow morning and if you expect success immediately, then the dream will end up as a dream.

Along with the struggles in life, the person who does not feel his dream is a burden only will be able to achieve it in life.

MAN RICHER THAN THE RICHEST

NIDHIN NELSON-2127917

Trotting through the busy streets
Of my hometown
I saw a man begging
To earn his living

Then I saw the poor man.
Counting what he earned that day
Though meager
Not enough to run his livelihood
Giving it to the flood-affected people

A man richer than the richest
Though poorer than most of us
A man with a huge heart
Who has a smile on his face
As he shares his hard-earned penny
Just to save his fellow countrymen

With a smile, he returned home
As he had happiness hidden;
Within him
And he just got overwhelmed
When he read the newspaper article
"A man richer than the richest."
Which made him realize
How popular he became
Within a day
Because of the good deed he did.

PHOTOGRAPHY CORNER

PRATEEK DWIVEDI -2127728

NAVEEN J-2127521

FACULTY CO-ORDINATORS

Dr. Ramakrishnan N

Dr. Saibal Kumar Saha

DESIGN TEAM

Sucheta

Tarun

Gayathri

Saumya

Praveen

CONTENT TEAM

Aparna

Nidhin

Christeena

Vidhi

Francis

Aditi